

ONSHORE OIL & GAS ORDER NO. 1

Approval of Operations on Onshore  
Federal and Indian Oil and Gas Leases

RECEIVED

NOV 22 1985

DIVISION OF OIL  
GAS & MINING

CROSSBED UNIT NO. 1-17  
1980' FNL and 1980' FWL  
Sec. 17, T36S - R23E  
San Juan County, Utah

Prepared For:

QUINTANA PETROLEUM CORP.

By:

PERMITCO INC.  
1020-15th Street, Suite 22-E  
Denver, Colorado 80202

Copies Sent To:

- 4 - BLM - Moab, Utah
- 1 - BLM - Monticello, Utah
- 1 - Div. of Oil, Gas & Mining - SLC, Utah
- 3 - Quintana Petroleum Corp. - Denver, Colorado

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**Permitco inc.**

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A Petroleum Permitting Company

**STATE OF UTAH**  
**DEPARTMENT OF NATURAL RESOURCES**  
**DIVISION OF OIL, GAS, AND MINING**

(Other instructions on reverse side)

**APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK**

1a. Type of Work **DRILL ☒** **DEEPEN ☐** **PLUG BACK ☐**

b. Type of Well  
 Oil Well ☒ Gas Well ☐ Other ☐ Single Zone ☒ Multiple Zone ☐

2. Name of Operator  
**Quintana Petroleum Corp. c/o PERMITCO INC. - Agent 303/595-4051**

3. Address of Operator  
**1020-15th St., Suite 22-E Denver, CO 80202**

4. Location of Well (Report location clearly and in accordance with any State requirements\*)  
 At surface **1980' FNL and 1980' FWL**  
 At proposed prod. zone

5. Lease Designation and Serial No.

**U-50698**

6. If Indian, Allottee or Tribe Name

**N/A**

7. Unit Agreement Name

**N/A**

8. Farm or Lease Name

**Crossbed Unit**

9. Well No.

**CROSSBED #1-17 FED.**

10. Field and Pool, or Wildcat

**Wildcat**

11. Sec., T., R., M., or Blk. and Survey or Area

**Sec. 17, T36S - R23E**

14. Distance in miles and direction from nearest town or post office\*

**8 miles northeast of Blanding, Utah**

12. County or Parrish 13. State

**DIVISION OF OIL****San Juan****Utah**

15. Distance from proposed\* location to nearest property or lease line, ft. (Also to nearest drlg. line, if any)

**660'**

16. No. of acres in lease

**480**

17. No. of acres assigned to this well

**40**

18. Distance from proposed location\* to nearest well, drilling, completed, or applied for, on this lease, ft.

**none**

19. Proposed depth

**6870'**

20. Rotary or cable tools

**Rotary**

21. Elevations (Show whether DF, RT, GR, etc.)

**6266' GR**

22. Approx. date work will start\*

**Immediately upon approval**

23.

**PROPOSED CASING AND CEMENTING PROGRAM**

Size of Hole	Size of Casing	Weight per Foot	Setting Depth	Quantity of Cement
12-1/4"	9-5/8"	36#	2300'	835 sx or suffic. to circulate
8-3/4"	5-1/2"	15.5#	6870'	525 sx or suffic. to cover zones of interest.

Quintana Petroleum Corp. proposes to drill a well to 6870' to test the Ismay and Desert Creek formations. If productive, casing will be run and the well completed. If dry, the well will be plugged and abandoned as per BLM and State of Utah requirements.

See Onshore Order No. 1 attached.

**APPROVED BY THE STATE  
 OF UTAH DIVISION OF  
 OIL, GAS, AND MINING**

DATE: 12/13/85  
 BY: [Signature]  
 WELL SPACING: 300

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

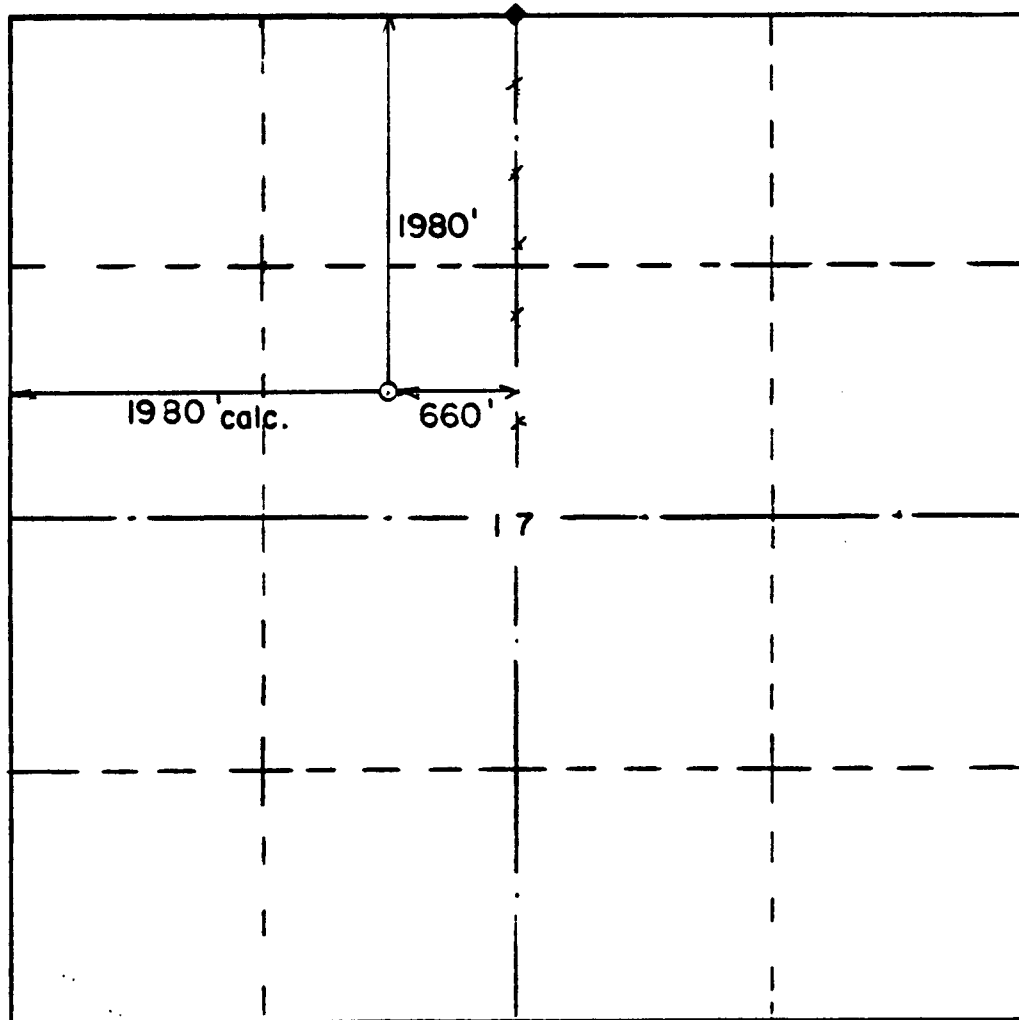
Signed: [Signature] Title: Consultant for Quintana Petroleum Corp. Date: 11/19/85

(This space for Federal or State office use)

Permit No. 43-037-31232 Approval Date \_\_\_\_\_

Approved by \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_  
 Conditions of approval, if any:

## WELL LOCATION AND ACREAGE DEDICATION PLAT



Operator <b>QUINTANA Petroleum</b>		Well name <b>Cross Bed Unit 1-17</b>	
Section <b>17</b>	Township <b>36 South</b>	Range <b>23 East</b>	Meridian <b>SLM</b>
Footages <b>1980' FN &amp; 1980' FW</b>		County/State <b>San Juan UT</b>	Elevation <b>6266'</b>
Formation	Dedicated Acreage	Requested by <b>Permitco</b>	
<p>The above plat is true and correct to the best of my knowledge and belief.</p> <p><b>11-10-'85</b></p> <p><i>Gerald G. Muddleston</i> Gerald G. Muddleston L.S.</p> <p>REGISTERED LAND SURVEYOR No. 5705 STATE OF UTAH</p>			

QUINTANA PETROLEUM CORPORATION

818 17TH STREET  
SUITE 610  
DENVER, COLORADO 80202  
(303) 628-9211

November 5, 1985

Bureau of Land Management  
P. O. Box 7  
Monticello, UT 84535

Re: Monument Butte Federal #1-8  
Section 8, T36S-R25E  
San Juan County, Utah

Crossbed Unit Federal #1-17  
Section 17, T36S-R23E  
San Juan County, Utah

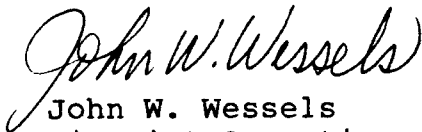
Gentlemen:

This letter is to inform you that Permitco is authorized to act as Agent and to sign documents on behalf of Quintana Petroleum Corporation when necessary for filing county, state and federal permits including Onshore Order No. 1, Right-of-Way applications, etc. for the referenced wells.

It should be understood that Permitco is acting as Agent only in those matters stated above and is not responsible for drilling, completion, production or compliance with regulations.

Quintana Petroleum Corporation agrees to accept full responsibility for operations conducted in order to drill, complete and produce the above-mentioned wells.

Very truly yours,



John W. Wessels  
District Operations Manager

cc: Lisa Green - Permitco

JWW:jp

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DRILLING PROGRAM

ONSHORE OIL & GAS ORDER NO. 1  
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1. The surface formation and estimated formation tops to be encountered are as follows:

<u>Formation</u>	<u>Depth</u>	<u>Subsea</u>
Quaternary Eolian	Surface	
Entrada	1060'	+5214'
Navajo	1277'	+4997'
Chinle	2272'	+4002'
Shinarump	2906'	+3368'
Hermosa	5213'	+1061'
Ismay	6480'	206'
Hovenweep	6618'	- 344'
Desert Creek	6738'	- 464'
Akah	6832'	- 558'
Salt	6864'	- 590'
T.D.	6870'	

2. The estimated depths at which oil, gas, water or other mineral bearing zones are expected to be encountered are as follows:

<u>Substance</u>	<u>Formation</u>	<u>Anticipated Depth</u>
Water	Navajo	1277'
Oil/Gas	Hermosa	5213'
Oil/Gas	Ismay	6480'
Oil/Gas	Desert Creek	6738'

All fresh water and prospectively valuable minerals encountered during drilling, will be recorded by depth cased and cemented. All oil and gas shows will be tested to determine commercial potential.

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3. Pressure control equipment will consist of a 10", 3000# BOP. (See BOP Diagram attached.)

BOP systems will be consistent with API RP 53. Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place. Blowout preventer controls will be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. Preventers will be pressure tested before drilling casing cement plugs.

4. a. Casing

The proposed casing program is as follows:

<u>Purpose</u>	<u>Depth</u>	<u>Hole Size</u>	<u>O.D.</u>	<u>Wt.</u>	<u>Grade</u>	<u>Type</u>	<u>New or Used</u>
Surface	0-2300'	12-1/4"	9-5/8"	36#	K-55	ST&C	New
Produc.	0-6870'	8-3/4"	5-1/2"	15.5#	K-55	ST&C	New

- b. Cement

The cementing program will be as follows:

<u>Surface</u>	<u>Type and Amount</u>
0-2300'	675 sx Lite w/6% gel, 1/4# celloseal and 2% CaCl <sub>2</sub> followed by 160 sx Class B w/2% CaCl <sub>2</sub> and 1/4# celloseal or sufficient to circulate to surface.
<u>Production</u>	<u>Type and Amount</u>
5870'-6870'	525 sx 50/50 Poz with 2% gel, 5% salt and 2#/sk hi-seal; or sufficient to cover zones of interest.

Anticipated cement tops will be reported as to depth, not the expected number of sacks.

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## DRILLING PROGRAM

5. Drilling fluid will be as follows:

<u>Interval</u>	<u>Mud Type</u>	<u>Mud Wt.</u>	<u>Visc.</u>	<u>F/L</u>	<u>PH</u>
0-2300'	Spud Mud	8.6-8.8	35-40	N/C	Native
2300-5000'	Gel Chem	8.6-8.8	30-40	N/C	9-9.5
5000'-T.D.	Lightly Dispersed	8.8-11.7	30-40	8-12	10

6. Coring, logging and testing programs are as follows:
  - a. No cores will be run.
  - b. The logging program will consist of the following: A DIL/SFL and BHC Sonic will be run from base of surface casing to T.D. An FDC/CNL will be run over the zones of interest.
  - c. Drill Stem Tests will be run in the Ismay at 6480, Desert Creek at 6738' and Hermosa at 5213'.

Whether the well is completed as a dry hole or as a producer, "Well Completion or Recompletion Report and Log" (Form 3160-4) will be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3164. Two copies of all logs, core descriptions, core analysis, well-test data, geologic summaries, sample descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed with Form 3160-4. If requested, samples (cuttings, fluids, and/or gases) will be submitted when requested by the District Manager.

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DRILLING PROGRAM

7. Abnormal conditions, bottom hole pressures and potential hazards.
  - a. The maximum bottom hole pressure to be expected is 3700 psi.
8. Anticipated Starting Dates and Notifications of Operations
  - a. Quintana Petroleum Corp. plans to spud the Crossbed Unit #1-17 immediately upon approval of this application and intends to complete the well within approximately one month after the well has reached T.D.
  - b. The operator will contact the San Juan Resource Area at 801/587-2201, 48 hours prior to beginning any dirt work on this location.
  - c. No location will be constructed or moved, no well will be plugged, and no drilling or workover equipment will be removed from a well to be placed in a suspended status without prior approval of the District Manager. If operations are to be suspended, prior approval of the District Manager will be obtained and notification given before resumption of operations.
  - d. The spud date will be reported orally to the San Juan Area Manager, a minimum of 24 hours before spudding. A Sundry Notice (Form 3160-5) will be sent within 24 hours of spudding, reporting the spud date and time. The Sundry will be sent to the District Manager. If spudding is on a weekend or holiday, the Sundry will be submitted on the following regular work day.
  - e. In accordance with Onshore Oil and Gas Order No. 1, this well will be reported on Form 9-329 "Monthly Report of Operations", starting with the month in which operations begin and continue each month until the well is physically plugged and abandoned. This report will be sent to the Moab BLM District Office, P. O. Box 970, Moab, Utah 84532.

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DRILLING PROGRAM

8. Notification Requirements (cont.)

- f. If a replacement rig is planned for completion operations, a "Sundry Notice" (Form 3160-5) to that effect will be filed, for prior approval of the District Manager. All conditions of this approved plan are applicable during all operations conducted with the replacement rig. In emergencies, verbal approval can be given by the District Petroleum Engineer.
- g. If the well is successfully completed for production, then the District Manager will be notified when the well is placed in a producing status. Such notification will be sent by telegram or other written communication, not later than five business days following the date on which the well is placed on production.
- h. No well abandonment operations will begin without the prior approval of the District Manager. In the case of newly drilled dry holes or failures, and in emergency situations, oral approval will be obtained from the District Petroleum Engineer. A "Subsequent Report of Abandonment" (Form 3160-5), will be filed with the District Manager, within 30 days following completion of the well for abandonment. This report will indicate where plugs were placed and the current status of surface restoration.
- i. Final abandonment will not be approved until surface reclamation work required by the approved APD or approved abandonment notice has been completed to the satisfaction of the San Juan Area Manager or his representative, or the appropriate surface Manager.
- j. Approval to vent/flare gas during initial well evaluation will be obtained from the District Office. This preliminary approval will not exceed 30 days or 50 MMCF gas. Approval to vent/flare beyond this initial test period will require District Office approval pursuant to guidelines in NTL-4A.
- k. Upon completion of approved plugging, a regulation marker will be erected in accordance with 43 CFR 3162.6. The following information will be permanently beaded-on with a welding torch: Fed, Well number, location by 1/4 1/4 section, township and range, lease number.

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DRILLING PROGRAM

8. Notification Requirements (cont.)

1. A first production conference will be scheduled within 15 days after receipt of the first production notice. The San Juan Area Manager will schedule the conference.

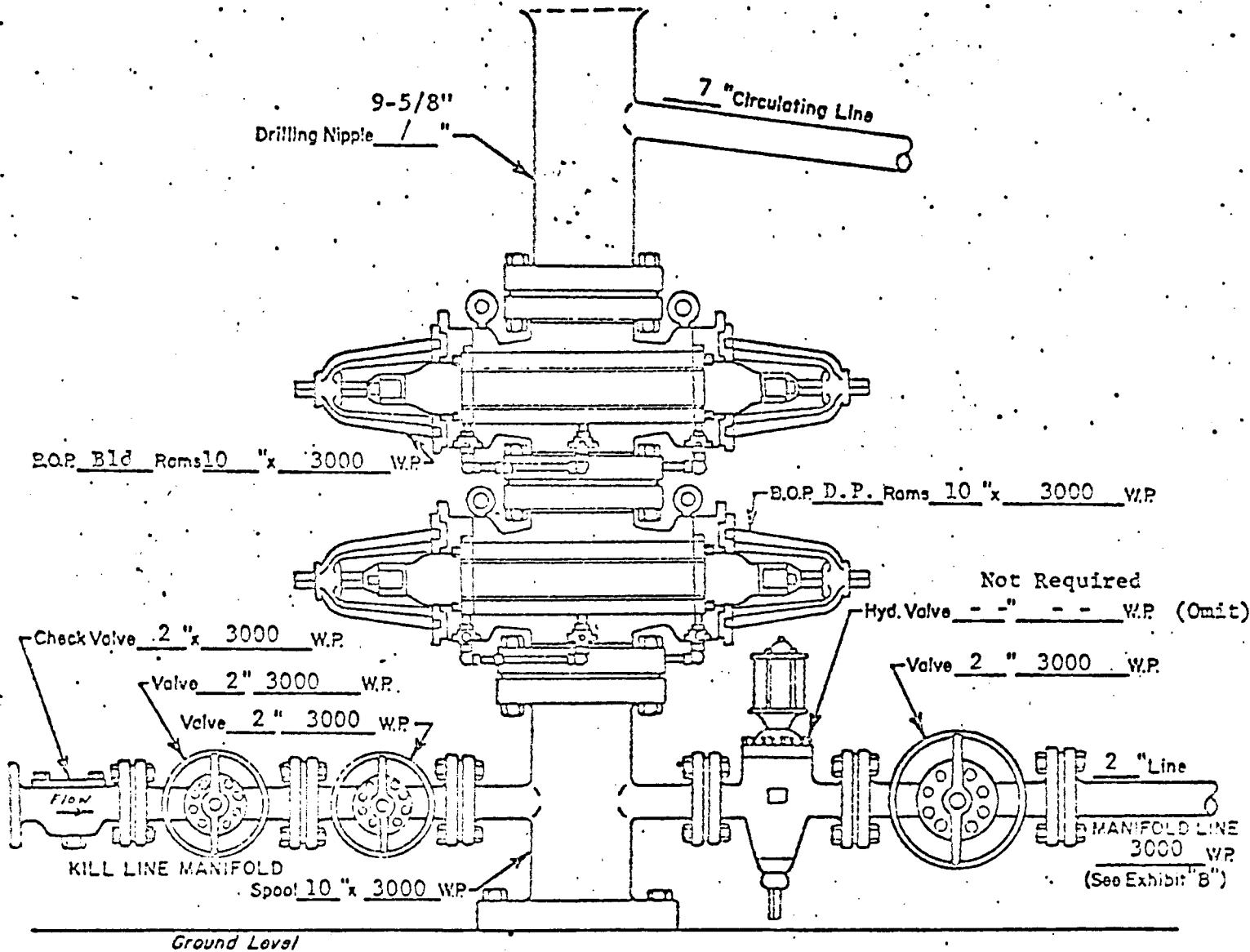
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# COLEMAN DRILLING CO.

WELL NAME: \_\_\_\_\_

LOCATION : \_\_\_\_\_



WELL HEAD B.O.P.

3000 W.P.

☒ Hydraulic

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SURFACE USE PLAN

ONSHORE OIL & GAS ORDER NO. 1

Thirteen Point Surface Use Plan

1. Existing Roads

- a. The proposed well site is located 8 miles northeast of Blanding, Utah.
- b. Directions to the location from Blanding are as follows:  
  
Go North on Highway 47 for 3.8 miles. Turn right onto county road and proceed up the hill and then easterly for 2 miles to the intersection of County Road #207 (Mustang). Turn right and proceed south for 1 mile. Turn right (west) onto existing two track and proceed along the fenceline and to the location, approximately 6/10 mile.
- c. The roads in the area are primarily county roads. See Map #1.
- d. Improvement to the existing access will not be necessary.
- e. All existing roads will be maintained and kept in good repair during all drilling and completion operations associated with this well.
- f. An encroachment permit will be obtained from the San Juan County Road Department, 801/587-2231, ext. 43.
- g. The archeological site along the proposed access (flagged in blue will be avoided.

2. Planned Access Roads

- a. The last 6/10 mile will be new access. The road will be flat bladed initially during construction and upgraded if production is established.
- b. The maximum total disturbed width will be 30 feet.

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SURFACE USE PLAN

2. Planned Access Roads (cont.)

- c. The maximum grade will be 5%+.
- d. Water turnouts will be installed as needed. No culverts will be necessary at this time. Two areas may be gravelled as necessary to serve as low water crossings..
- e. Surfacing material will be applied as necessary (during wet weather conditions) to prevent rutting. Gravel will be removed during reclamation.
- f. One cattleguard will be installed as shown on Map #1.
- g. Surface disturbance and vehicular travel will be limited to the approved location and approved access route. Any additional area needed will be approved in advance by the San Juan Area Manager.
- h. The access road will be water barred or brought to Class III Road Standards within 60 days of dismantling of the drilling rig. If this time frame cannot be met, the San Juan Area Manager will be notified so that temporary drainage control can be installed along the access road.
- i. The Class III Road Standards which ensure drainage control over the entire road through the use of natural, rolling topography; ditch turnouts; drainage dips; outsloping; crowning; low water crossings; and culverts will be determined at the appropriate field inspection.
- j. We are requesting that a Right-of-Way grant be issued on the first 600 feet after the new access leaves the County Road. See Map #1. Attached is a check in the amount of \$70.00 to cover the R-O-W fees.

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SURFACE USE PLAN

3. Location of Existing Wells Within a 1-Mile Radius of the Proposed Location. (See Map #2).
  - a. Water Wells - none
  - b. Injection or disposal wells - none
  - c. Producing Wells - none
  - d. Drilling Wells - none
  
4. Location of Tank Batteries and Production Facilities.
  - a. All permanent structures (onsite for six months or longer) constructed or installed (including oil well pump jacks) will be painted a flat, nonreflective, earthtone color to match the standard environmental colors, as determined by the Rocky Mountain Five-State Interagency Committee. All facilities will be painted within six months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) will be excluded.
  - b. If a tank battery is constructed on this lease, it will be surrounded by a dike of sufficient capacity to contain 1-1/2 times the storage capacity of the battery.
  - c. Tank batteries will be placed as shown on Diagram #1.
  - d. All loading lines will be placed inside the berm surrounding the tank battery.
  - e. Any necessary pits will be properly fenced to prevent any wildlife entry. The production pit will be flagged overhead.
  - f. All site security guidelines identified in 43 CFR 3162.7 regulations will be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed.

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SURFACE USE PLAN

4. Production Facilities (cont.)

- g. All off-lease storage, off-lease measurement, or commingling on-lease or off-lease will have prior written approval from the District Manager.
- h. Gas meter runs for each well will be located within 500 feet of the wellhead. The gas flowline will be buried from the wellhead to the meter and 500 feet downstream of the meter run or any production facilities. Meter runs will be housed and/or fenced.
- i. The oil and gas measurement facilities will be installed on the well location. The oil and gas meters will be calibrated in place prior to any deliveries. Tests for meter accuracy will be conducted monthly for the first three months on new meter installations and at least quarterly thereafter. The San Juan Area Manager will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports will be submitted to the Moab District Office. All meter measurement facilities will conform with the API standards for liquid hydrocarbons and the AGA standard for natural gas measurement.

5. Location and Type of Water Supply

- a. All water needed for drilling purposes will be obtained from a private source.
- b. Water will be hauled to location over the roads marked on Map #1.
- c. No water well is to be drilled on this lease.
- d. Use of water for this operation will be approved by obtaining a temporary use permit from the Utah State Engineer, 801/637-1303, and by receiving permission from the land owner of surface management agency to use the land containing the water source.

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SURFACE USE PLAN

6. Source of Construction Material

- a. Road surfacing material will be obtained from a commercial source. Pad construction material will be native.

7. Methods of Handling Waste Disposal

- a. The reserve pit will not be lined unless porous material is encountered. At least half of the capacity will be in cut.
- b. Three sides of the reserve pit will be fenced with four strands of barbed wire before drilling starts. The fourth side will be fenced as soon as the drilling is completed. The fence will be kept in good repair while the pit is drying.
- c. A trash pit will be constructed near the mud tanks and dug at least six feet into solid, undisturbed material. It will be totally enclosed with a fine wire mesh before the rig moves in. The road and pad will be kept litter free. If a trash cage is used, its contents will be hauled to an approved landfill.
- d. Produced waste water will be confined to a unlined pit for a period not to exceed 90 days after initial production. During the 90-day period, an application for approval of a permanent disposal method and location, along with the required water analysis, will be submitted for the District Manager's approval pursuant to Onshore Oil and Gas Order No. 3 (NTL-2B).
- e. A burning permit is required for burning trash between May 1 and October 31. This can be acquired by contacting the State Fire Warden, John Baker, at 801/587-2705.

8. Ancillary Facilities

- a. There are no airstrips, camps, or other facilities planned during the drilling of the proposed well.

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SURFACE USE PLAN

9. Well Site Layout

- a. See Diagram #2 for rig layout. See Diagram #3 for cross section of drill pad. See Diagram #4 for cuts and fills.
- b. The location of mud tanks; reserve, burn and trash pits; pipe racks; living facilities and soil stockpiles will be shown on Diagram #2 and #4. The location will be laid out and constructed as discussed during the predrill conference.
- c. The top 12 inches of soil material will be removed from the location and stockpiled on the north and south sides. Topsoil along the access will be reserved in place.
- d. Access to the well pad will be from the southwest.

10. Reclamation

- a. Immediately upon completion of drilling, all trash and debris will be collected from the location and surrounding area. All trash and debris will be disposed of in the trash pit and will then be compacted and buried under a minimum of two feet of compacted soil.
- b. The operator or his contractor will contact the San Juan Resource Area office in Monticello, Utah (801/587-2201) 48 hours before starting reclamation work that involves earthmoving equipment and upon completion of restoration measures.
- c. Before any dirt work to restore the location takes place, the reserve pit must be completely dry.
- d. All disturbed areas will be recontoured to blend as nearly as possible with the natural topography. This includes removing all berms and refilling all cuts.
- e. The stockpiled topsoil will be spread evenly over the disturbed area. All disturbed areas will be ripped 12 inches deep with the contour.

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SURFACE USE PLAN

10. Reclamation of Surface (cont.)

- f. Water bars will be built as follows to control erosion.

<u>Grade</u>	<u>Spacing</u>
2%	Every 200 Feet
2-4%	Every 100 Feet
4-5%	Every 75 Feet
5+%	Every 50 Feet

- g. Seed will be broadcast between October 1 and February 28 with the following prescription. A harrow or similar implement will be dragged over the area to assure seed cover.

10 lbs/acre Crested Wheatgrass (Agropyron desertorum)

- h. After seeding is complete, the stockpiled trees will be scattered evenly over the disturbed areas. The access will be blocked to prevent vehicular access.
- i. The reserve pit and that portion of the location and access road not needed for production and production facilities will be reclaimed as described in the reclamation section. Enough topsoil will be kept to reclaim the remainder of the location at a future date. This remaining stockpile of topsoil will be seeded in place using the prescribed seed mixture.

11. a. Surface Ownership

Federal

b. Mineral Ownership

Federal

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SURFACE USE PLAN

12. Other Information

- a. There will be no change from the proposed drilling and/or workover program without prior approval from the District Manager. Safe drilling and operating practices must be used. All wells, whether drilling, producing, suspended, or abandoned will be identified in accordance with 43 CFR 3162.2.
- b. "Sundry Notice and Report on Wells" (Form 3160-5) will be filed for approval for all changes of plans and other operations in accordance with 43 CFR 3164.
- c. The dirt contractor will be provided with an approved copy of the surface use plan.
- d. If subsurface cultural materials are exposed during construction, work in that spot will stop immediately and the San Juan Resource Area Office will be contacted. All people who are in the area will be informed by the operator that they are subject to prosecution for disturbing archeological sites or picking up artifacts. Salvage or excavation of identified archeological sites will be done by a BLM approved archeologist only if damage occurs.
- e. This permit will be valid for a period of one year from the date of approval. After permit termination, a new application will be filed for approval for any future operations.
- f. An archeological study was done by LaPlata Archaeological Consultants. No significant cultural resources were found and clearance is recommended. A copy of this report will be submitted directly by LaPlata Archeological Consultants.
- g. Your contact with the District Office is: Greg Nobel, 801/259-6111, P.O. Box 970, Moab, Utah 84532.  
  
The Resource Area Manager's address is P.O. Box 7, Monticello, Utah 84535. Your contact is Rich McClure, 801/587-2201.
- h. Prior to cementing surface casing, notify Mike Wade, 801/587-2201 or 801/587-2026.

---

---

**Permitco** inc.

---

---

A Petroleum Permitting Company

ONSHORE ORDER NO.   
 Quintana Petroleum Corp.   
 Crossbed Unit No. 1-17   
 1980' FNL and 1980' FWL   
 Sec. 17, T36S - R23E   
 San Juan County, Utah

SURFACE USE PLAN

13. Lessee's or Operator's Representative and Certification

Permit Matters

Permitco Inc.  
 Lisa L. Green  
 1020-15th Street  
 Suite 22-E  
 Denver, Co. 80202  
 303/595-4051

Drilling & Completion Matters

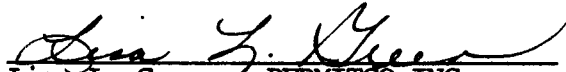
Quintana Petroleum Corp.  
 1050-17th St.,  
 Suite 400  
 Denver, CO 80265  
 303/628-9211 (W)  
 John Wessels - 303/987-0540 (H)  
 Scott Kimbrough - 303/573-7002 (H)

13. Lessee's or Operator's Certification (cont.)

Certification

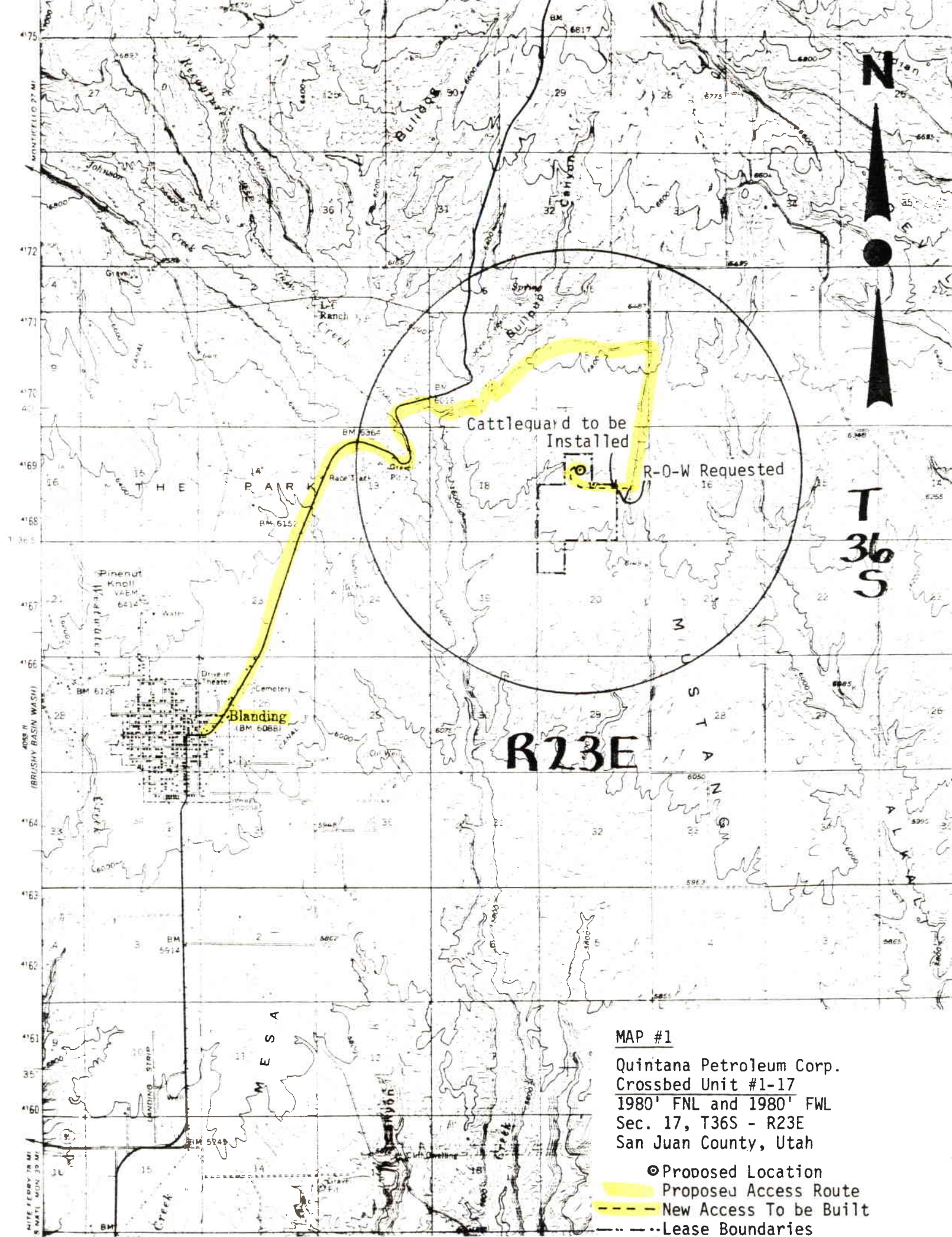
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by Quintana Petroleum Corp. and its contractors and subcontractors in conformity with the plan and the terms and conditions under which it is approved.

November 19, 1985  
 Date:

  
 Lisa L. Green - PERMITCO INC.  
 Authorized Agent for:  
 QUINTANA PETROLEUM CORP.

**Permitco** inc.

A Petroleum Permitting Company



**MAP #1**

Quintana Petroleum Corp.  
Crossbed Unit #1-17  
1980' FNL and 1980' FWL  
Sec. 17, T36S - R23E  
San Juan County, Utah

⊙ Proposed Location

— Proposed Access Route

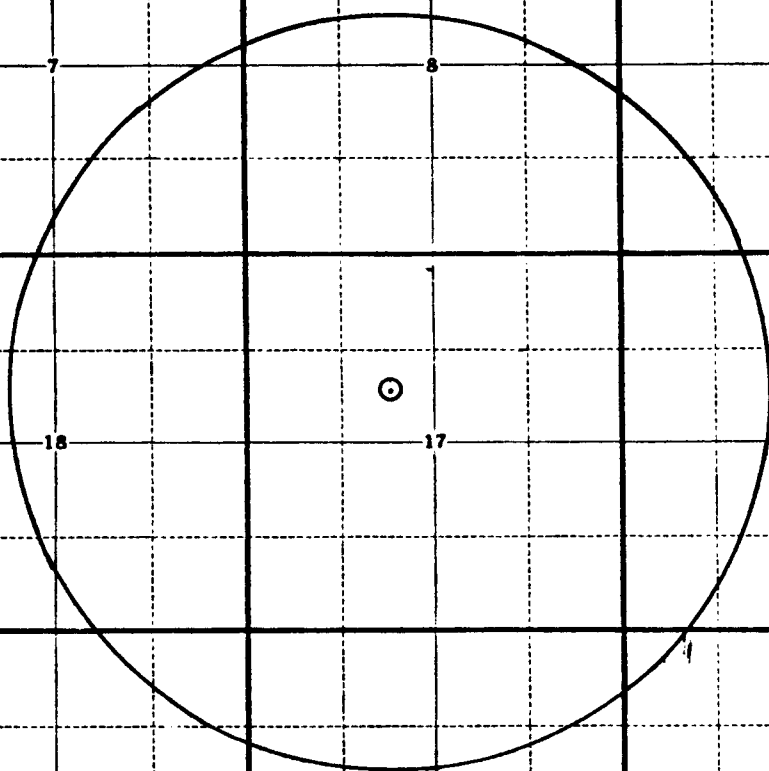
--- New Access To be Built

--- Lease Boundaries

R23E -

N

T  
36  
S



7 8 9 10  
18 17 16 15  
19 20 21 22  
30 29 28 27  
31 32 33

Map #2  
Quintana Petroleum Corp.  
Crossbed Unit #1-17  
1980' FNL & 1980' FWL  
Sec. 17, T36S-R23E  
San Juan County, Utah  
⊙ Proposed Location

Scale: 1" = 50'

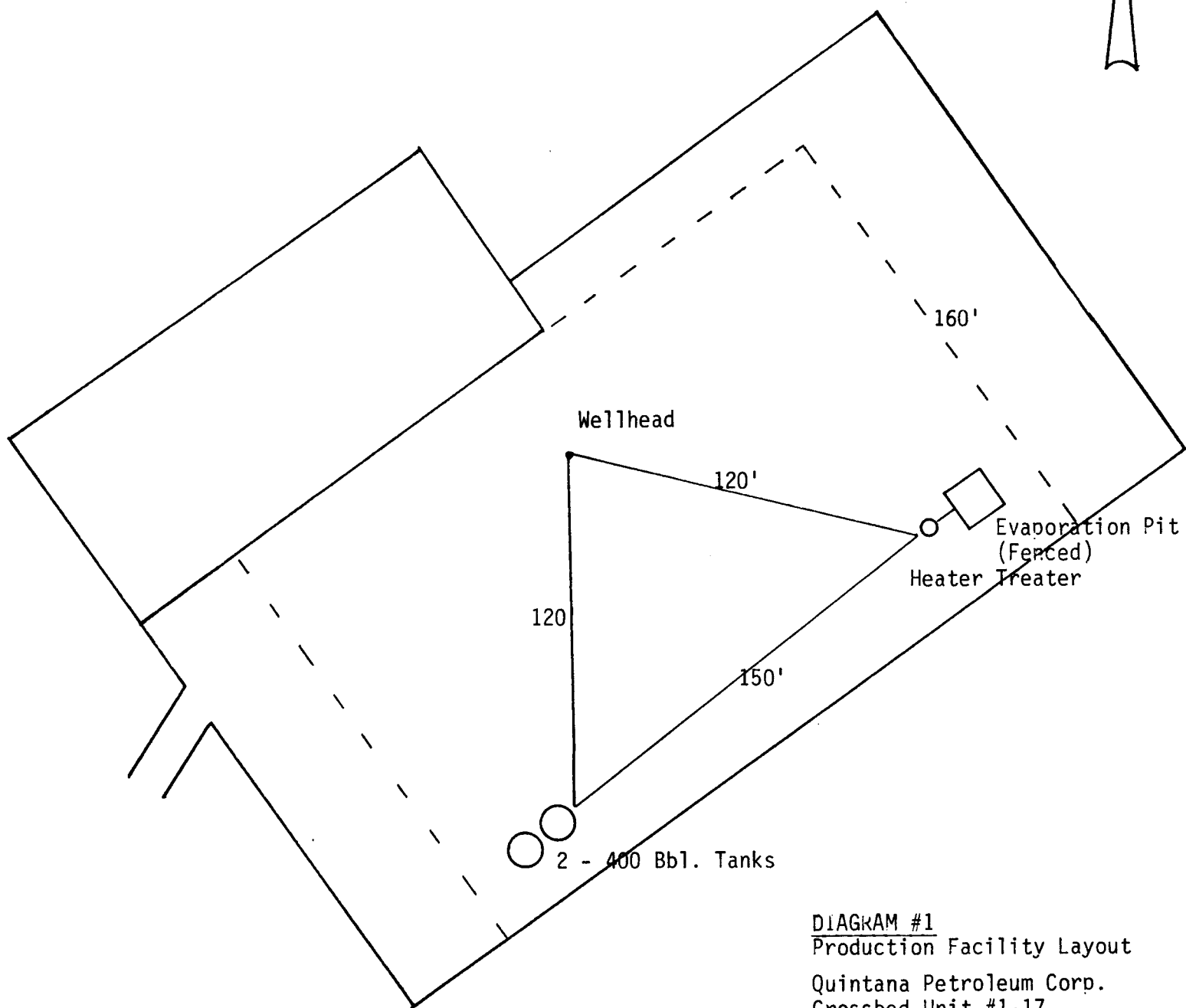


DIAGRAM #1  
Production Facility Layout  
Quintana Petroleum Corp.  
Crossbed Unit #1-17  
1980' FNL and 1980' FWL  
Sec. 17, T36S - R23E  
San Juan County, Utah

Scale: 1" = 50'

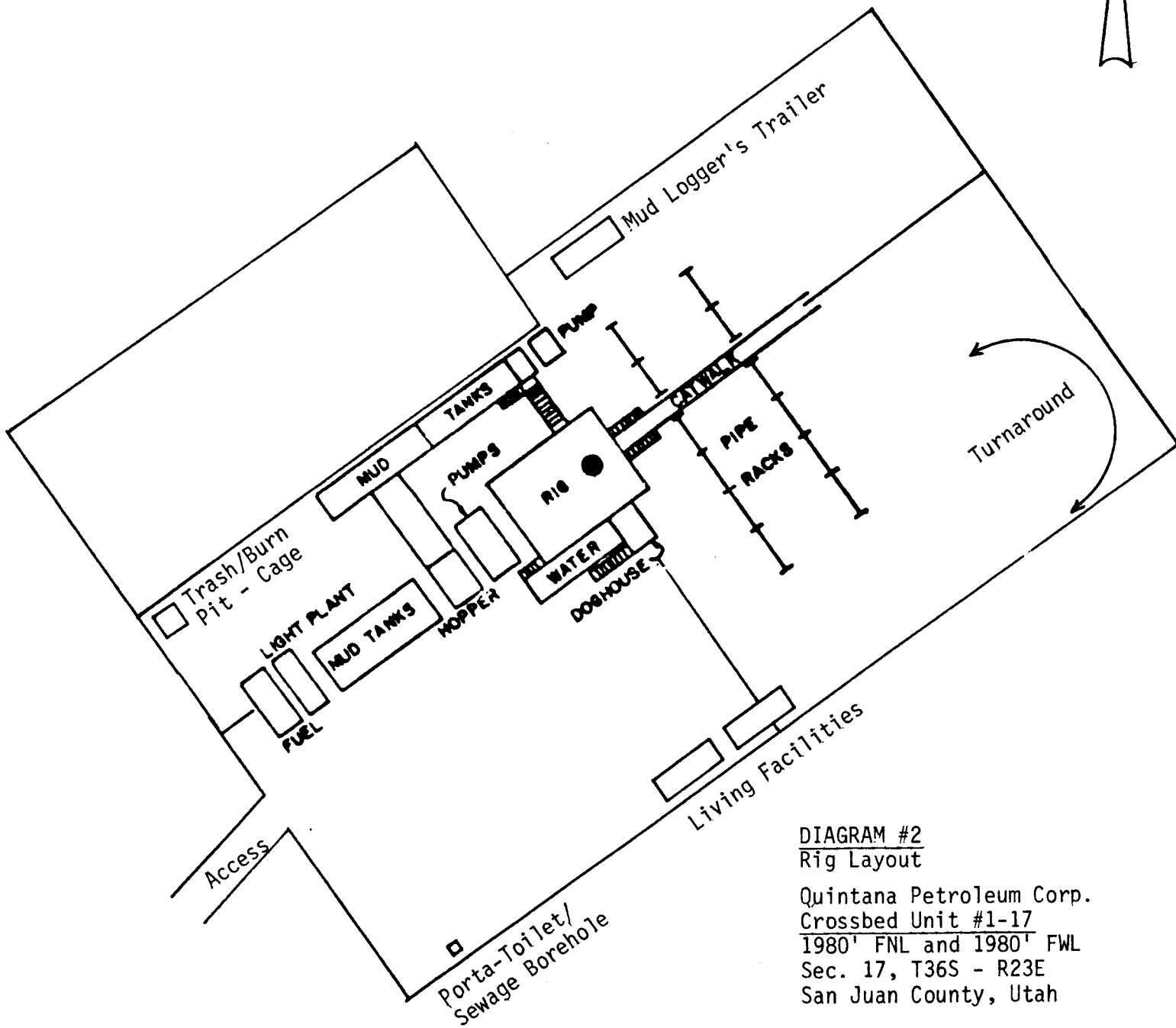


DIAGRAM #2  
Rig Layout

Quintana Petroleum Corp.  
Crossbed Unit #1-17  
1980' FNL and 1980' FWL  
Sec. 17, T36S - R23E  
San Juan County, Utah



# WELL PAD CROSS-SECTION

Well 1-17

Cut /////  
Fill

Scales: 1"=50' H.  
1"=30' V.

1.7 Vertical Exaggeration

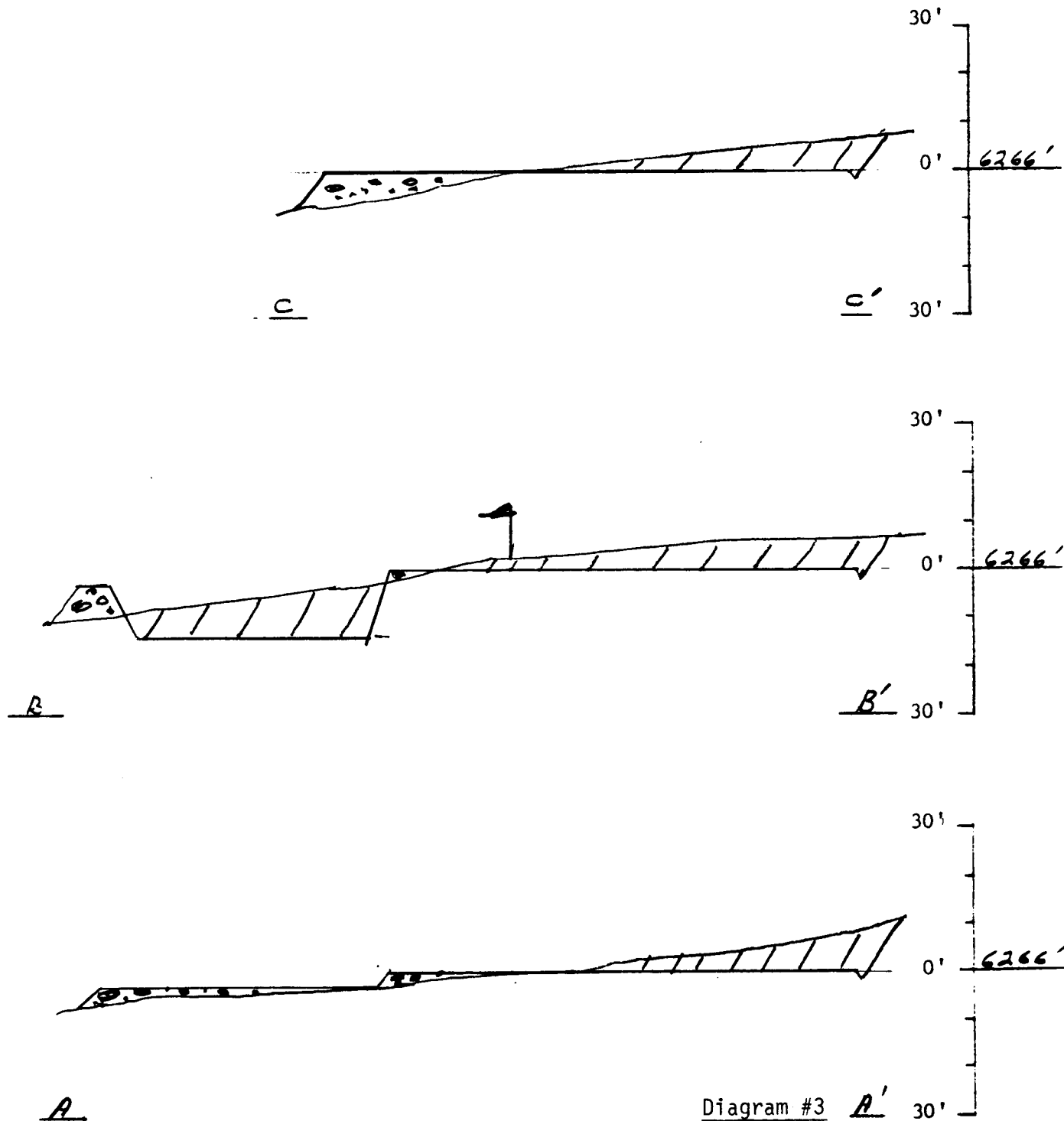


Diagram #3 A 30'  
Quintana Petroleum Corp.  
Crossbed Unit #1-17  
1980' FNL & 1980' FWL  
Sec. 17, T36S-R23E  
San Juan County, Utah

# WELL PAD PLAN VIEW

Well 1-17

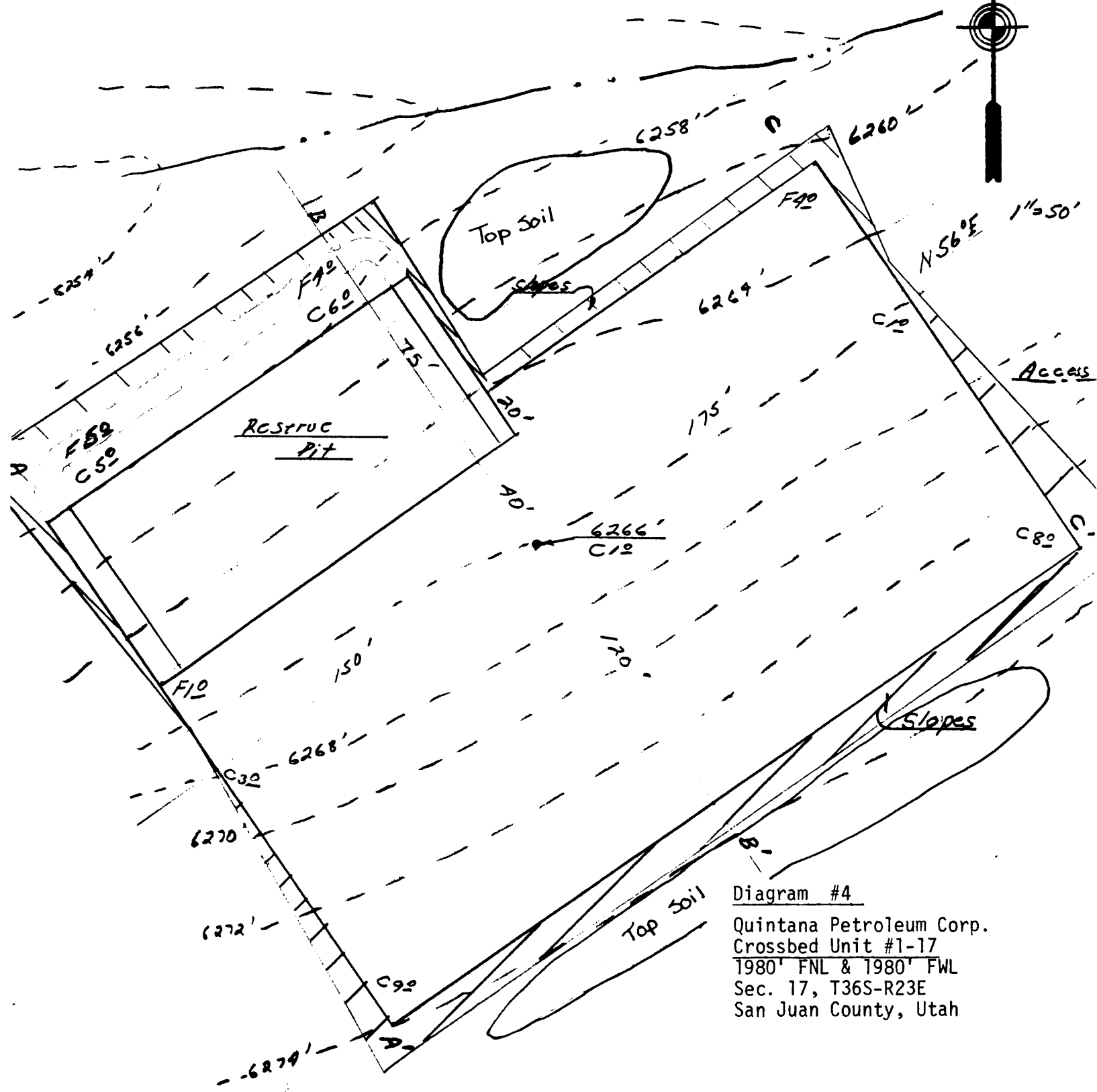


Diagram #4

Quintana Petroleum Corp.  
 Crossbed Unit #1-17  
 1980' FNL & 1980' FWL  
 Sec. 17, T36S-R23E  
 San Juan County, Utah

OPERATOR Quintana Petroleum Corp. DATE 11-27-85

WELL NAME Crosbed <sup>Dept.</sup> #1-17

SEC SE NW 17 T 36S R 23E COUNTY San Juan

43-037-31232  
API NUMBER

Oil  
TYPE OF LEASE

CHECK OFF:

☒

PLAT

☒

BOND

☒

NEAREST WELL

☒

LEASE

☒

FIELD

☒

POTASH OR  
OIL SHALE

PROCESSING COMMENTS:

No other well within 920'  
Water & - 64-1450  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

APPROVAL LETTER:

SPACING: ☐ A-3 UNIT

☐ c-3-a CAUSE NO. & DATE

☒ ~~c-3-b~~ 302

☐ c-3-c

STIPULATIONS:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



STATE OF UTAH  
NATURAL RESOURCES  
Oil, Gas & Mining

Norman H. Bangerter, Governor  
Dee C. Hansen, Executive Director  
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

December 13, 1985

Quintana Petroleum Corporation  
c/o Permitco, Inc.  
1020 - 15th Street, Suite 22-E  
Denver, Colorado 80202

Gentlemen:

Re: Well No. Crossbed Federal 1-17 - SE NW Sec. 17, T. 36S, R. 23E  
1980' FNL, 1980' FWL - San Juan County, Utah

Approval to drill the above-referenced well is hereby granted in accordance with Rule 302, General Rules.

In addition, the following actions are necessary to fully comply with this approval:

1. Spudding notification to the Division within 24 hours after drilling operations commence.
2. Submittal to the Division of completed Form OGC-8-X, Report of Water Encountered During Drilling.
3. Prompt notification to the Division should you determine that it is necessary to plug and abandon this well. Notify John R. Baza, Petroleum Engineer, (Office) (801) 538-5340, (Home) 298-7695, or R. J. Firth, Associate Director, (Home) 571-6068.
4. Compliance with the requirements and regulations of Rule 311.3, Associated Gas Flaring, General Rules.
5. This approval shall expire one (1) year after date of issuance unless substantial and continuous operation is underway or an application for an extension is made prior to the approval expiration date.

The API number assigned to this well is 43-037-31232.

Sincerely,

R. J. Firth  
Associate Director, Oil & Gas

as  
Enclosures  
cc: Branch of Fluid Minerals

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL  
WELL ☒

GAS  
WELL ☐

OTHER

SINGLE  
ZONE ☒

MULTIPLE  
ZONE ☐

2. NAME OF OPERATOR

Quintana Petroleum Corp. c/o PERMITCO INC. 293/595-4051

3. ADDRESS OF OPERATOR

1020-15th St., Suite 22-E Denver, CO 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)

At surface

1980' FNL and 1980' FWL

At proposed prod. zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

8 miles northeast of Blanding, Utah

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest drig. unit line, if any)

660'

18. DISTANCE FROM PROPOSED LOCATION\*  
TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

none

16. NO. OF ACRES IN LEASE

480

19. PROPOSED DEPTH

6870'

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

40

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

6266' GR

22. APPROX. DATE WORK WILL START\*

Immediately upon approval

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	9-5/8"	36#	2300'	835 sx or suffic. to circ.
8-3/4"	5-1/2"	15.5#	6870'	525 sx or suffic. to cover zones of interest.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

*Gesa L. Green*

TITLE

Consultant for  
Quintana Petroleum Corp.

DATE

11/19/85

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

Kenneth V. Rhza

APPROVED BY

TITLE

Acting

DISTRICT MANAGER

DATE

13 DEC 1985

CONDITIONS OF APPROVAL, IF ANY:

SUBJECT TO RIGHT OF WAY  
APPROVAL

CONDITIONS OF APPROVAL ATTACHED  
See Instructions On Reverse Side

FLARING OR VENTING OF  
GAS IS SUBJECT OF NTL 4-A  
DATED 1/1/80

**STATE OF UTAH**  
**DEPARTMENT OF NATURAL RESOURCES**  
**DIVISION OF OIL, GAS, AND MINING**

(Other instructions on  
reverse side)

5. Lease Designation and Serial No.

U-50698

6. If Indian, Allottee or Tribe Name

N/A

7. Unit Agreement Name

N/A

8. Farm or Lease Name

Crossbed Unit

9. Well No.

#1-17

10. Field and Pool, or Wildcat

Wildcat

11. Sec., T., R., M., or Blk.  
and Survey or Area

Sec. 17, T36S - R23E

12. County or Parrish 13. State

San Juan

Utah

**APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK**

1a. Type of Work

DRILL ☒DEEPEN ☐PLUG BACK ☐

b. Type of Well

Oil Well ☒Gas Well ☐

Other

Single Zone ☒Multiple Zone ☐

2. Name of Operator

Quintana Petroleum Corp. c/o PERMITCO INC. - Agent 303/595-

3. Address of Operator

4051

1020-15th St., Suite 22-E Denver, CO 80202

4. Location of Well (Report location clearly and in accordance with any State requirements.)\*

At surface

1980' FNL and 1980' FWL

At proposed prod. zone

14. Distance in miles and direction from nearest town or post office\*

8 miles northeast of Blanding, Utah

15. Distance from proposed\*  
location to nearest  
property or lease line, ft.  
(Also to nearest drlg. line, if any)

660'

16. No. of acres in lease

480

17. No. of acres assigned  
to this well

40

18. Distance from proposed location\*  
to nearest well, drilling, completed,  
or applied for, on this lease, ft.

none

19. Proposed depth

6870'

20. Rotary or cable tools

Rotary

21. Elevations (Show whether DF, RT, GR, etc.)

6266' GR

22. Approx. date work will start\*

Immediately upon approval

23.

**PROPOSED CASING AND CEMENTING PROGRAM**

Size of Hole	Size of Casing	Weight per Foot	Setting Depth	Quantity of Cement
12-1/4"	9-5/8"	36#	2300'	835 sx or suffic. to circulate
8-3/4"	5-1/2"	15.5#	6870'	525 sx or suffic. to cover zones of interest.

Quintana Petroleum Corp. proposes to drill a well to 6870' to test the Ismay and Desert Creek formations. If productive, casing will be run and the well completed. If dry, the well will be plugged and abandoned as per BLM and State of Utah requirements.

See Onshore Order No. 1 attached.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

Signed

*Lisa L. Green*

Title

Consultant for  
Quintana Petroleum Corp.

Date

11/19/85

(This space for Federal or State office use)

Permit No.

Approval Date

Approved by

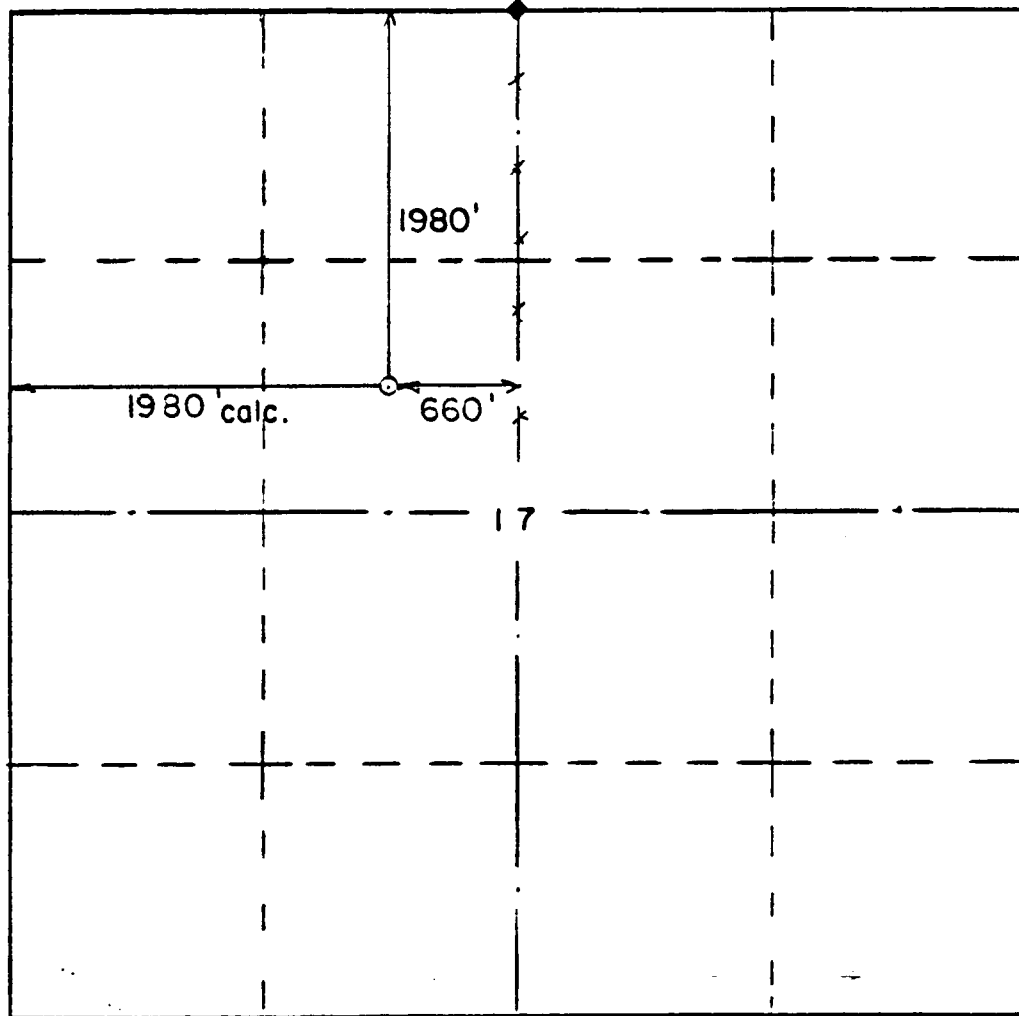
Title

Date

Conditions of approval, if any:

\*See Instructions On Reverse Side

## WELL LOCATION AND ACREAGE DEDICATION PLAT



Operator <b>QUINTANA Petroleum</b>		Well name <b>Cross Bed Unit 1-17</b>	
Section <b>17</b>	Township <b>36 South</b>	Range <b>23 East</b>	Meridian <b>SLM</b>
Footages <b>1980' FN &amp; 1980' FW</b>		County/State <b>San Juan UT</b>	Elevation <b>6266'</b>
Formation	Dedicated Acreage	Requested by <b>Permitco</b>	
<p>The above plat is true and correct to the best of my knowledge and belief.</p> <p><b>11-10-'85</b></p> <p><i>Gerald G. Huddleston</i> Gerald G. Huddleston, L.S.</p> <p>REGISTERED LAND SURVEYOR No. 5705 STATE OF UTAH</p>			

Quintana Petroleum Corp.  
Well No. Crossbed Unit 1-17  
Sec. 17, T. 36 S., R. 23 E.  
San Juan County, Utah  
Lease U-50698

CONDITION OF APPROVAL

B. THIRTEEN POINT SURFACE USE PLAN

---

Fence for avoidance of the archaeological site (42 SA 17460)  
that is located along the access route that parallels the  
fence in the NW $\frac{1}{4}$ SE $\frac{1}{4}$  Sec. 17, T. 36 S., R. 23 E.



EXPRESS MAIL ROUTING SLIP

PAM

pk 2:30 12/14

TAMI

HA 2:45 12/14

VICKY

VC 8:40 12-17

CLAUDIA

Cj 3:56 12/16

STEPHANE

SB 4:09 "

CHARLES

CP 7:35 12-17

RULA

Rm 8:03 "

MARY ALICE

MAP 8:54 12/17

CONNIE

CD 8:59 12-17

MILLIE

pk 12/17 9:15

PAM

## DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

API #43-037-31232

NAME OF COMPANY: Quintana PetroleumWELL NAME: Crossbed Federal 1-17SECTION SE NW 17 TOWNSHIP 36S RANGE 23E COUNTY San JuanDRILLING CONTRACTOR ArapahoeRIG # 11SPUDDED: DATE 12-20-85TIME 6:30 AMHOW Rotary

DRILLING WILL COMMENCE \_\_\_\_\_

REPORTED BY Jerry GraysonTELEPHONE 678-2278 (Room 103)DATE 12-26-85 SIGNED AS

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS, AND MINING

## SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. U-50698
2. NAME OF OPERATOR QUINTANA PETROLEUM CORPORATION (303)628-9211		6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A
3. ADDRESS OF OPERATOR 1050 - 17th Street, Suite 400, Denver, Colorado 80265		7. UNIT AGREEMENT NAME N/A
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 1980' FNL & 1980' FWL SE NW Section 17		8. FARM OR LEASE NAME CROSSBED FEDERAL
14. PERMIT NO. 43-037-31232		9. WELL NO. #1-17
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 6266' GR		10. FIELD AND POOL, OR WILDCAT Wildcat
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Section 17, T36S-R23E
		12. COUNTY OR PARISH San Juan
		13. STATE Utah

## 16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

## NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF ☐FRACTURE TREAT ☐SHOOT OR ACIDIZE ☐REPAIR WELL ☐(Other) ☐PULL OR ALTER CASING ☐MULTIPLE COMPLETE ☐ABANDON\* ☐CHANGE PLANS ☐

X

## SUBSEQUENT REPORT OF:

WATER SHUT-OFF ☐FRACTURE TREATMENT ☐SHOOTING OR ACIDIZING ☐(Other) ☐REPAIRING WELL ☐ALTERING CASING ☐ABANDONMENT\* ☐

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

Spud well at 6:30 a.m. 12/20/85 with Arapahoe Drilling Rig #11. Drilled 12 $\frac{1}{4}$ " hole to 2298'. Ran and cemented 9 5/8" casing at 2298'. Plug down at 10:30 p.m. 12/23/85. Shut down operations for Christmas. Now drilling ahead and 2298' (12/26/85).

RECEIVED

DEC 30 1985

DIVISION OF OIL  
GAS & MINING

18. I hereby certify that the foregoing is true and correct

SIGNED

*J. Williams*

TITLE Production Technician

DATE 12/26/85

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN  
(Other Inst.  
verse side)

PLICATE  
ons on re

3  
Form approved.  
Budget Bureau No. 1004-0135  
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>		7. UNIT AGREEMENT NAME N/A	
2. NAME OF OPERATOR QUINTANA PETROLEUM CORPORATION (303)628-9211		8. FARM OR LEASE NAME Crossbed Unit Federal	
3. ADDRESS OF OPERATOR 1050 - 17th Street, Suite 400, Denver, Colorado 80265		9. WELL NO. #1-17	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 1980' FNL & 1980' FWL SE NW Section 17		10. FIELD AND POOL, OR WILDCAT Wildcat	
14. PERMIT NO. 43-037-31232		15. ELEVATIONS (Show whether DF, RT, GR, etc.) 6266' GR	
16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		12. COUNTY OR PARISH San Juan	
		13. STATE Utah	

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input checked="" type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input checked="" type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANE <input type="checkbox"/>	(Other) <input type="checkbox"/>	
(Other) <input type="checkbox"/>		(Other) <input type="checkbox"/>	

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. WHEREAS, FINISHED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Verbal approval received from Greg Noble, BLM, Moab 1/9/86 to plug and abandon well as follows:

Plug #1: 6578'-6478', 35 sxs 50/50 pozmix w/2% gel.  
Plug #2: 2375'-2275', 50 sxs 50/50 pozmix w/2% gel.  
Plug #3: Surface, 10 sxs 50/50 pozmix w/2% gel and 2% CaCl.

Rig released 1100 hrs 1/10/86.

ACCEPTED BY THE STATE  
OF UTAH DIVISION OF  
OIL, GAS, AND MINING

DATE: 2/13/86  
BY: John R. Bay

18. I hereby certify that the foregoing is true and correct

SIGNED

*[Signature]*

TITLE Production Technician

DATE 1/20/86

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

\*See Instructions on Reverse Side

QUINTANA PETROLEUM CORPORATION

1050 SEVENTEENTH STREET  
SUITE 400  
DENVER, COLORADO 80265  
(303) 628-9211

RECEIVED

JAN 23 1986

DIVISION OF OIL  
GAS & MINING

January 20, 1986

State of Utah  
Department of Natural Resources  
Division of Oil, Gas & Mining  
355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180

RE: Monument Butte Federal #1-8  
SE SW Section 8, T36S-R25E  
San Juan County, Utah

Crossbed Unit Federal #1-17  
SE NW Section 17, T36S-R23E  
San Juan County, Utah

Gentlemen:

Regarding your notification that you had not received reports on the Monument Butte Federal #1-8, attached please find copies of the following which have been submitted to the BLM:

1. Sundry Notice - Summary of Operations as of 12/23/85.
2. Sundry Notice - Summary of Operations as of 1/20/86.
3. Well Completion Report.

I have also attached the same reports on the Crossbed Unit Federal #1-17. My apologies for not forwarding these to you earlier.

Very truly yours,



Jeannie Williams  
Production Technician

/jw

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE\*  
(See other instructions on reverse side)

Form approved.  
Budget Bureau No. 1004-0137  
Expires August 31, 1985

6

WELL COMPLETION OR RECOMPLETION REPORT AND LOG \*

1a. TYPE OF WELL:		OIL WELL <input type="checkbox"/>	GAS WELL <input type="checkbox"/>	DRY <input checked="" type="checkbox"/>	Other _____		
b. TYPE OF COMPLETION:		NEW WELL <input checked="" type="checkbox"/>	WORK OVER <input type="checkbox"/>	DEEP EN <input type="checkbox"/>	PLUG BACK <input type="checkbox"/>	DIFF. RENVR. <input type="checkbox"/>	Other _____
2. NAME OF OPERATOR						3. ADDRESS OF OPERATOR	
QUINTANA PETROLEUM CORPORATION						(303)628-9211	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)						5. LEASE DESIGNATION AND SERIAL NO.	
At surface 1980' FNL & 1980' FWL (SE NW)						U-50698	
At top prod. interval reported below						6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
N/A						N/A	
At total depth						7. UNIT AGREEMENT NAME	
Same						N/A	
14. PERMIT NO.						8. FARM OR LEASE NAME	
43-037-31232						CROSSBED UNIT FEDERAL	
DIVISION OF OIL & GAS						9. WELL NO.	
15. DATE SPUDDED						#1-17	
12/20/85						10. FIELD AND POOL, OR WILDCAT	
16. DATE T.D. REACHED						Wildcat	
1/8/86						11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA	
17. DATE COMPL. (Ready to prod.)						Section 17, T36S-R23E	
P&A 1/10/86						12. COUNTY OR PARISH	
18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*						San Juan Co.	
6266' GR						Utah	
19. ELEV. CASINGHEAD						13. STATE	
6279'						San Juan Co.	
20. TOTAL DEPTH, MD & TVD						14. COUNTY OR PARISH	
6897'						Utah	
21. PLUG BACK T.D., MD & TVD						15. COUNTY OR PARISH	
N/A						San Juan Co.	
22. IF MULTIPLE COMPL. HOW MANY*						16. COUNTY OR PARISH	
23. INTERVALS DRILLED BY						Utah	
ROTARY TOOLS						17. COUNTY OR PARISH	
CABLE TOOLS						San Juan Co.	
0'-6897'						Utah	
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*						18. COUNTY OR PARISH	
N/A						San Juan Co.	
25. WAS DIRECTIONAL SURVEY MADE						Utah	
No						19. COUNTY OR PARISH	
26. TYPE ELECTRIC AND OTHER LOGS RUN						San Juan Co.	
DIL/SFL/GR/SP, BHC/Sonic/GR, FDC/CNL/GR/Cal						Utah	
27. WAS WELL CORED						20. COUNTY OR PARISH	
No						San Juan Co.	
28. CASING RECORD (Report all strings set in well)						21. COUNTY OR PARISH	
29. LINER RECORD						Utah	
30. TUBING RECORD						22. COUNTY OR PARISH	
31. PERFORATION RECORD (Interval, size and number)						San Juan Co.	
32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.						Utah	
33. PRODUCTION						23. COUNTY OR PARISH	
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)						San Juan Co.	
35. LIST OF ATTACHMENTS						Utah	
36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records						24. COUNTY OR PARISH	
SIGNED <i>M. Williams</i>						San Juan Co.	
TITLE Production Technician						Utah	
DATE 1/21/86						25. COUNTY OR PARISH	
cc: State of Utah						San Juan Co.	

cc: State of Utah \*(See Instructions and Spaces for Additional Data on Reverse Side)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE  
(Other instructions on reverse side)

Form approved.  
Budget Bureau No. 1004-0135  
Expires August 31, 1985

**SUNDRY NOTICES AND REPORTS ON WELLS**

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. <input type="checkbox"/> OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER		5. LEASE DESIGNATION AND SERIAL NO. U-50698
2. NAME OF OPERATOR QUINTANA PETROLEUM CORPORATION (303)628-9211		6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A
3. ADDRESS OF OPERATOR 1050 - 17th Street, Suite 400, Denver, Colorado 80265		7. UNIT AGREEMENT NAME N/A
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface 1980' FNL & 1980' FWL SE NW Section 17		8. FARM OR LEASE NAME Crossbed Unit Federal
14. PERMIT NO. 43-037-31232		9. WELL NO. #1-17
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 6266' GR		10. FIELD AND POOL, OR WILDCAT Wildcat
12. COUNTY OR PARISH San Juan		11. SEC., T., S., R., OR BLK. AND SURVEY OR AREA Section 17, T36S-R23E
13. STATE Utah		

RECEIVED

JAN 23 1986

DIVISION OF OIL  
GAS & MINING

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <input type="checkbox"/>	(Other) <input type="checkbox"/>
(Other) <input type="checkbox"/>		(Other) <input type="checkbox"/>	

REPORT OF OPERATIONS ☒ (Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and sopes pertinent to this work.) \*

SUMMARY OF OPERATIONS

1. Drilled to 2298'. Set and cemented 9 5/8" casing at 2298.05'.
2. Drilled to 6897'. Ran DST #1: 6755'-6860'.
3. Logged well.
4. Plugged and abandoned 1/10/86. FINAL REPORT.

18. I hereby certify that the foregoing is true and correct

SIGNED

*J. Williams*

TITLE Production Technician

DATE 1/20/86

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

cc: State of Utah

\*See Instructions on Reverse Side

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN TR/ (Other instructi  
verse side)

Form approved.  
Budget Bureau No. 1004-0135  
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>	5. LEASE DESIGNATION AND SERIAL NO. U-50698
2. NAME OF OPERATOR QUINTANA PETROLEUM CORPORATION (303)628-9211	6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A
3. ADDRESS OF OPERATOR 1050 - 17th Street, Suite 400, Denver, Colorado 80202	7. UNIT AGREEMENT NAME N/A
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface 1980' FNL & 1980' FWL SE NW Section 17	8. FARM OR LEASE NAME Crossbed Unit Federal
14. PERMIT NO.	9. WELL NO. #1-17
	10. FIELD AND POOL, OR WILDCAT Wildcat
15. ELEVATIONS (Show whether SP, RT, OR LTH) 6266' GR	11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Section 17, T36S-R23E
16. DIVISION OF OIL GAS & MINING	12. COUNTY OR PARISH San Juan
	13. STATE Utah

Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON\*

CHANGE PLANS

PROGRESS REPORT

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input checked="" type="checkbox"/>

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT\*

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

SUMMARY OF OPERATIONS - As of 12/23/85

1. SPUD well at 6:30 a.m. 12/20/85 with Arapahoe Drilling Rig #11.
2. Now drilling ahead at 2119'. Plan to set surface pipe at 2300'.

18. I hereby certify that the foregoing is true and correct

SIGNED

*M. Williams*

TITLE

Production Technician

DATE

12/23/85

(This space for Federal or State office use)

APPROVED BY

ACCEPTED

TITLE

BRANCH OF FLUID MINERALS

MOAB DISTRICT

DATE

30 DEC 1985

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions on Reverse Side



L. A. PRENDERGAST  
CONSULTING GEOLOGIST

**RECEIVED**  
FEB 18 1986

GRAND JUNCTION, COLORADO  
(303) 245-3921

81503 DIVISION OF  
OIL, GAS & MINING

**WELL DATA SUMMARY**

Well Name:	Crossbed Unit Federal 1-17
Operator:	Quintana Petroleum Corporation
Location:	SE NW Sec. 17, T36S, R23E San Juan County, Utah
Area:	Wildcat
Drilling Contractor:	Arapahoe Rig #11
Elevation:	6266 GR 6279 KB
Depth Logged:	6897
Well Status:	Plugged and Abandoned
Casing Program:	13 3/8" at 2298'
Mechanical Logs Run:	DIL/SFL/GR/SP TD-BSC BHC/GR TD-BSC FDC/CNL/GR/CAL TD-5500
Cores:	None
D.S.T.:	Flopetrol/Johnston
Mudlogging Company:	Tooke Mudlogging
Geologist:	L. A. Prendergast - Grand Junction, CO

L. A. PRENDERGAST

2

CONSULTING GEOLOGIST

GRAND JUNCTION, COLORADO 81503  
(303) 245-3921

Quintana Petroleum Corporation Crossbed Federal Unit #1-17, spudded 20 December, 1985 to evaluate the Pennsylvanian Ismay and Desert Creek Formations with the secondary objective of the Hermosa Formation.

No significant shows or zones of porosity were found in the Hermosa.

The Upper Ismay carbonate zone was present and significantly thick but no porosity or show of significance was noted. The Desert Creek proved to be underdeveloped with no significant porosity or show.

At 6850' - 6860', a drilling break was noted and circulated up for evaluation. A gas show of 248 units was recorded with a minor sample show. DST #1 evaluated this show to determine that no significant porosity was present.

The well was drilled to total depth at 6897' and Electrical and Mechanical logs were run.

The Crossbed Federal Unit 1-17 was plugged and abandoned as a dry hole 10 January, 1986.

Should there be any further questions, please feel free to call me at any time.

Respectfully submitted,



L. A. Prendergast  
Consulting Geologist  
187 Reta Drive  
Grand Junction, CO 81503  
(303) 245-3921



# BIT RECORD

OPERATOR: Quintana Petroleum Corp.

WELL NAME: Crossbed Unit Federal 1-17 LOCATION NO. : Sec.17 - 36S - 23E

CONTRACTOR: Arapahoe

RIG NO. 11

AREA:

STATE/COUNTY: San Juan/Utah

RIG MAKE & MODEL: U-34

SURFACE CASING: 9 5/8" @ 2298 INT. CASING: \_\_\_\_\_ PROD. CASING: \_\_\_\_\_

NO. 1 PUMP, MAKE & MODEL: Nat. C-2500

SPUD DATE: 20 Dec. 85

G. L. : 8266

NO. 2 PUMP, MAKE & MODEL: Nat. C-150

T. D. DATE:

K. B. : 8279

BIT NO.	SIZE	MAKE TYPE	JETS	BIT SER. NO.	DEPTH OUT	FEET	HOURS	ACCUM. HOURS	WT. M.	RPM	VERT. DEV.	PUMP PSI	MUD WT. VIS	BIT COND. T B G	REMARKS
1	17 1/4	Read HP51A	13,13	RRTH7880	1318	1285	37 1/2	37 1/2			3/4				
2	12 1/4	STCA F-2	13,13	RREE8406	2298	980	33 1/4	70 3/4			3/4				
3	8 3/4	Read FP52	14,14	W57734	4130	1622	54 1/2	125 1/4			3/4				
4	8 3/4	Read FP52	14,14	W55755	6042	1912	111 1/4	236 1/2			3/4				
5	8 3/4	Varel V537	14,14	14153	6662	620	62 1/4	298 3/4			1 3/4				
6	8 3/4	STC F-3	14,14	F02214											

**QUINTANA PETROLEUM CORPORATION CROSSBED FEDERAL UNIT #1-17****DST #1**

Testing Company: Flopetrol/Johnston

Interval: 6755' - 6860'

Formation: Desert Creek/Akah

	<b>TOP</b>	<b>BOTTOM</b>
IH	2918	3914
IF	85-60	104-79
ISI	251	268
FF	49-38	66-59
FSI	261	281
FH	3901	3914

BHT = 162° F

Rec: 20 feet drilling mud

Sample chamber: 900 cc<sub>mud</sub>  
.10 ft<sup>3</sup> @ 6 psi

## DAILY REPORT

TEMP \_\_\_\_\_ SPUD \_\_\_\_\_ DAY \_\_\_\_\_ DATE 31 Dec. 85  
 COMPANY Quintana Petroleum Corp.  
 WELL Crossbed Uni6 Federal 1-17  
 LOCATION \_\_\_\_\_

DEPTH YESTERDAY \_\_\_\_\_ TODAY 5264 FTG \_\_\_\_\_ FT/HR \_\_\_\_\_  
 OPERATION Drilling with Bit #4

8 3/4 Reed

BIT NO. 4 TYPE FP52 IN 4130 OUT \_\_\_\_\_ FT. \_\_\_\_\_ HRS. \_\_\_\_\_  
 BIT NO. \_\_\_\_\_ TYPE \_\_\_\_\_ IN \_\_\_\_\_ OUT \_\_\_\_\_ FT. \_\_\_\_\_ HRS. \_\_\_\_\_  
 WOB \_\_\_\_\_ RPM \_\_\_\_\_ PP \_\_\_\_\_ SPM \_\_\_\_\_ LAG 57 @ 5166

MUD 5263 WT 8.9 VIS 34 WL 8.8 CK 2/32 PH 9.5 CL 400 Fe/Ca Nil  
 SURVEYS \_\_\_\_\_

5200 @ 2 A.M. 31 Dec. 85

## GEOLOGICAL

FORM TOPS \_\_\_\_\_

FORMATION Hermosa 5218

LITHOLOGY Shale and Siltstone red-orange, red-brown arkosic,  
micaceous.

Trace Limestone cream, white, light gray-brown  
microcrystalline hard, dense

MUD GAS \_\_\_\_\_ TG \_\_\_\_\_ BACKGROUND 3

ZONE OF INTEREST NO. \_\_\_\_\_ @ \_\_\_\_\_ TO \_\_\_\_\_

SHOWS-BREAKS None

DEPTH \_\_\_\_\_ LITHOLOGY HW C1 C2 C3 C4 C5 FLUO

REMARKS \_\_\_\_\_

CALLED \_\_\_\_\_ @ \_\_\_\_\_ DATE \_\_\_\_\_

GEOLOGY \_\_\_\_\_ LOGGING \_\_\_\_\_ MILEAGE \_\_\_\_\_ EXP \_\_\_\_\_

## DAILY REPORT

TEMP \_\_\_\_\_ SPUD \_\_\_\_\_ DAY \_\_\_\_\_ DATE 1 Jan. 1986  
 COMPANY Quintana  
 WELL Cross Unit Fed. 1-17  
 LOCATION \_\_\_\_\_

DEPTH YESTERDAY 5274 TODAY 5565 FTG 301 FT/HR \_\_\_\_\_  
 OPERATION Drilling with Bit #4

BIT NO. \_\_\_\_\_ TYPE \_\_\_\_\_ IN \_\_\_\_\_ OUT \_\_\_\_\_ FT. \_\_\_\_\_ HRS. \_\_\_\_\_  
 BIT NO. \_\_\_\_\_ TYPE \_\_\_\_\_ IN \_\_\_\_\_ OUT \_\_\_\_\_ FT. \_\_\_\_\_ HRS. \_\_\_\_\_  
 WOB 40M RPM 70 PP 1000 SPM 57 LAG @

MUD 5565 WT 9.0 VIS 33 WL 14 CK 2 PH 10.5 CL 400 Fe/Ca \_\_\_\_\_  
 SURVEYS \_\_\_\_\_

## GEOLOGICAL

FORM TOPS \_\_\_\_\_

FORMATION Hermosa

LITHOLOGY \_\_\_\_\_

MUD GAS \_\_\_\_\_ TG \_\_\_\_\_ BACKGROUND 4-10

ZONE OF INTEREST NO. \_\_\_\_\_ @ \_\_\_\_\_ TO \_\_\_\_\_

SHOWS-BREAKS 5581-84 2 - 46 No fluor.

DEPTH \_\_\_\_\_ LITHOLOGY HW C1 C2 C3 C4 C5 FLUO

REMARKS \_\_\_\_\_

CALLED \_\_\_\_\_ @ \_\_\_\_\_ DATE \_\_\_\_\_

GEOLOGY \_\_\_\_\_ LOGGING \_\_\_\_\_ MILEAGE \_\_\_\_\_ EXP \_\_\_\_\_

## DAILY REPORT

8

TEMP \_\_\_\_\_ SPUD \_\_\_\_\_ DAY \_\_\_\_\_ DATE 2 Jan. 86COMPANY Quintana Petroleum Corp.WELL Fed. 1-17

LOCATION \_\_\_\_\_

DEPTH YESTERDAY 5565 TODAY 5884 FTG 319 FT/HR \_\_\_\_\_OPERATION Drlg w/Bit #4BIT NO. 4 TYPE ED52 IN 4130 OUT cont. FT. \_\_\_\_\_ HRS. 93

BIT NO. \_\_\_\_\_ TYPE \_\_\_\_\_ IN \_\_\_\_\_ OUT \_\_\_\_\_ FT. \_\_\_\_\_ HRS. \_\_\_\_\_

WOB 38 RPM 70 PP 1000 SPM 56 LAG 63 @ 5686MUD 5878 WT 9.1 VIS 32 WL 11.0 CK 2 PH 10.0 CL 400 Fe/Ca Nil

SURVEYS \_\_\_\_\_

## GEOLOGICAL

FORM TOPS Hermosa 5218FORMATION Hermosa

LITHOLOGY \_\_\_\_\_

Correlation appears flat to Tenn. B. PU 1-8 @ 5850MUD GAS \_\_\_\_\_ TG \_\_\_\_\_ BACKGROUND 3-4

ZONE OF INTEREST NO. \_\_\_\_\_ LS \_\_\_\_\_ @ \_\_\_\_\_ TO \_\_\_\_\_

SHOWS-BREAKS 45 u @ 5585-90 44 u @ 5682-84DEPTH \_\_\_\_\_ LITHOLOGY HW C1 C2 C3 C4 C5 FLUO

REMARKS \_\_\_\_\_

CALLED \_\_\_\_\_ @ \_\_\_\_\_ DATE \_\_\_\_\_

GEOLOGY \_\_\_\_\_ LOGGING \_\_\_\_\_ MILEAGE \_\_\_\_\_ EXP \_\_\_\_\_



## DAILY REPORT

TEMP \_\_\_\_\_ SPUD \_\_\_\_\_ DAY \_\_\_\_\_ DATE 3 Jan. 86

COMPANY Quintana

WELL \_\_\_\_\_

LOCATION \_\_\_\_\_

DEPTH YESTERDAY 5884 TODAY 6104 FTG 320 FT/HR \_\_\_\_\_

OPERATION Drlg. w/Bit #5

Reed

 BIT NO. 4 TYPE EP52 IN 4130 OUT 6042 FT. 1912 HRS. 111 1/2

BIT NO. 5 TYPE Varel V53 IN 6042 OUT \_\_\_\_\_ FT. \_\_\_\_\_ HRS. \_\_\_\_\_

WOB 38-40 RPM \_\_\_\_\_ PP \_\_\_\_\_ SPM \_\_\_\_\_ LAG 70 @ 6025

MUD 6093 WT 9.3 VIS 33 WL 14.0 CK 2 PH 9.5 CL 400 Ea/Ca 20

SURVEYS 6042 - 1 1/2 SLM 6056 - 6058 - 2 1/2

No correction made

## GEOLOGICAL

FORM TOPS \_\_\_\_\_

FORMATION Hermosa

LITHOLOGY LS

Sh &amp; Sltsn

MUD GAS \_\_\_\_\_ TG 12 BACKGROUND 2

ZONE OF INTEREST NO. \_\_\_\_\_ @ \_\_\_\_\_ TO \_\_\_\_\_

SHOWS-BREAKS None

DEPTH \_\_\_\_\_ LITHOLOGY HW C1 C2 C3 C4 C5 FLUO

REMARKS \_\_\_\_\_

CALLED \_\_\_\_\_ @ \_\_\_\_\_ DATE \_\_\_\_\_

GEOLOGY \_\_\_\_\_ LOGGING \_\_\_\_\_ MILEAGE \_\_\_\_\_ EXP \_\_\_\_\_

## DAILY REPORT

10

TEMP \_\_\_\_\_ SPUD \_\_\_\_\_ DAY \_\_\_\_\_ DATE 4 Jan. 86

COMPANY \_\_\_\_\_

WELL \_\_\_\_\_

LOCATION \_\_\_\_\_

DEPTH YESTERDAY 6104 TODAY 6365 FTG 261 FT/HR \_\_\_\_\_

OPERATION Drlg. w/Bit #5

BIT NO. \_\_\_\_\_ TYPE \_\_\_\_\_ IN \_\_\_\_\_ OUT \_\_\_\_\_ FT. \_\_\_\_\_ HRS. \_\_\_\_\_

BIT NO. \_\_\_\_\_ TYPE \_\_\_\_\_ IN \_\_\_\_\_ OUT \_\_\_\_\_ FT. \_\_\_\_\_ HRS. \_\_\_\_\_

WOB 40 RPM 65 PP 1000 SPM \_\_\_\_\_ LAG 71 @ 6272

MUD 6361 WT 9.3 VIS 35 WL 8.8 CK 2 PH 9.0 CL 400 Fe/Ca 40

SURVEYS \_\_\_\_\_

## GEOLOGICAL

FORM TOPS \_\_\_\_\_

FORMATION Hermosa LS

LITHOLOGY \_\_\_\_\_

MUD GAS \_\_\_\_\_ TG \_\_\_\_\_ BACKGROUND 8

ZONE OF INTEREST NO. \_\_\_\_\_ @ \_\_\_\_\_ TO \_\_\_\_\_

SHOWS-BREAKS \_\_\_\_\_

DEPTH \_\_\_\_\_ LITHOLOGY HW C1 C2 C3 C4 C5 FLUO

6276 - 78 (4-10) 96 137 56 24 2

REMARKS VV weak spl show, LS wh, crm microxln, w/tr pp v Ø, frac Ø

2 1/2 m/ft

CALLED \_\_\_\_\_ @ \_\_\_\_\_ DATE \_\_\_\_\_

GEOLOGY \_\_\_\_\_ LOGGING \_\_\_\_\_ MILEAGE \_\_\_\_\_ EXP \_\_\_\_\_

## DAILY REPORT

TEMP \_\_\_\_\_ SPUD \_\_\_\_\_ DAY \_\_\_\_\_ DATE 5 Jan. 86

COMPANY \_\_\_\_\_

WELL \_\_\_\_\_

LOCATION \_\_\_\_\_

DEPTH YESTERDAY 6365 TODAY 6595 FTG 230 FT/HR \_\_\_\_\_

OPERATION Drlg. w/Bit#5

BIT NO. \_\_\_\_\_ TYPE \_\_\_\_\_ IN \_\_\_\_\_ OUT \_\_\_\_\_ FT. \_\_\_\_\_ HRS. \_\_\_\_\_

BIT NO. \_\_\_\_\_ TYPE \_\_\_\_\_ IN \_\_\_\_\_ OUT \_\_\_\_\_ FT. \_\_\_\_\_ HRS. \_\_\_\_\_

WOB \_\_\_\_\_ RPM \_\_\_\_\_ PP \_\_\_\_\_ SPM \_\_\_\_\_ LAG \_\_\_\_\_ @ \_\_\_\_\_

MUD 6593 WT \_\_\_\_\_ VIS 9.4 WL 11.2 CK 2 PH 10.5 CL 400 Fe/Ca Nil

SURVEYS \_\_\_\_\_

## GEOLOGICAL

FORM TOPS \_\_\_\_\_

Ismay Top (Anhy) 6488 - LS @ 6536

FORMATION Ismay

LITHOLOGY \_\_\_\_\_

6547-50 - fastest @ 4-5 M/ft. - No show

MUD GAS \_\_\_\_\_ TG \_\_\_\_\_ BACKGROUND 4-20

ZONE OF INTEREST NO. \_\_\_\_\_ @ \_\_\_\_\_ TO \_\_\_\_\_

SHOWS-BREAKS \_\_\_\_\_

DEPTH \_\_\_\_\_ LITHOLOGY HW C1 C2 C3 C4 C5 FLUO

REMARKS \_\_\_\_\_

CALLED \_\_\_\_\_ @ \_\_\_\_\_ DATE \_\_\_\_\_

GEOLOGY \_\_\_\_\_ LOGGING \_\_\_\_\_ MILEAGE \_\_\_\_\_ EXP \_\_\_\_\_

## DAILY REPORT

TEMP \_\_\_\_\_ SPUD \_\_\_\_\_ DAY \_\_\_\_\_ DATE 6 Jan. 86

COMPANY \_\_\_\_\_

WELL \_\_\_\_\_

LOCATION \_\_\_\_\_

DEPTH YESTERDAY 6595 TODAY 6662 FTG 67 FT/HR \_\_\_\_\_

OPERATION TIH w/Bit #6 \_\_\_\_\_

BIT NO. 5 TYPE V537 IN 6042 OUT 6662 FT. 620 HRS. 62½

BIT NO. 6 TYPE STL F-3 IN 6662 OUT \_\_\_\_\_ FT. \_\_\_\_\_ HRS. \_\_\_\_\_

WOB \_\_\_\_\_ RPM \_\_\_\_\_ PP \_\_\_\_\_ SPM \_\_\_\_\_ LAG \_\_\_\_\_ @ \_\_\_\_\_

MUD 6662 WT 9.4 VIS 36 WL 9.4 CK 2/32 PH 11.5 CL 400 Fe/Ca Nil

SURVEYS \_\_\_\_\_

## GEOLOGICAL

FORM TOPS \_\_\_\_\_

FORMATION Ismay \_\_\_\_\_

LITHOLOGY \_\_\_\_\_

MUD GAS \_\_\_\_\_ TG \_\_\_\_\_ BACKGROUND 10-40

ZONE OF INTEREST NO. \_\_\_\_\_ @ \_\_\_\_\_ TO \_\_\_\_\_

SHOWS-BREAKS \_\_\_\_\_

DEPTH \_\_\_\_\_ LITHOLOGY HW C1 C2 C3 C4 C5 FLUO

REMARKS \_\_\_\_\_

CALLED \_\_\_\_\_ @ \_\_\_\_\_ DATE \_\_\_\_\_

GEOLOGY \_\_\_\_\_ LOGGING \_\_\_\_\_ MILEAGE \_\_\_\_\_ EXP \_\_\_\_\_

## DAILY REPORT

TEMP \_\_\_\_\_ SPUD \_\_\_\_\_ DAY \_\_\_\_\_ DATE 7 Jan. 86

COMPANY \_\_\_\_\_

WELL \_\_\_\_\_

LOCATION \_\_\_\_\_

DEPTH YESTERDAY 6662 TODAY 6823 FTG 161 FT/HR

OPERATION Drlg. w/Bit#6

BIT NO. \_\_\_\_\_ TYPE \_\_\_\_\_ IN \_\_\_\_\_ OUT \_\_\_\_\_ FT. \_\_\_\_\_ HRS. \_\_\_\_\_

BIT NO. \_\_\_\_\_ TYPE \_\_\_\_\_ IN \_\_\_\_\_ OUT \_\_\_\_\_ FT. \_\_\_\_\_ HRS. \_\_\_\_\_

WOB \_\_\_\_\_ RPM \_\_\_\_\_ PP \_\_\_\_\_ SPM \_\_\_\_\_ LAG \_\_\_\_\_ @

MUD \_\_\_\_\_ WT \_\_\_\_\_ VIS \_\_\_\_\_ WL \_\_\_\_\_ CK \_\_\_\_\_ PH \_\_\_\_\_ CL \_\_\_\_\_ Fe/Ca \_\_\_\_\_

SURVEYS \_\_\_\_\_

Pump motor problems

## GEOLOGICAL

FORM TOPS \_\_\_\_\_

D.c.

FORMATION D.C. 6748

LITHOLOGY \_\_\_\_\_

6662

MUD GAS \_\_\_\_\_ TG 55 BACKGROUND \_\_\_\_\_

ZONE OF INTEREST NO. \_\_\_\_\_ @ \_\_\_\_\_ TO \_\_\_\_\_

SHOWS-BREAKS \_\_\_\_\_

DEPTH	LITHOLOGY	HW	CL	C2	C3	C4	C5	FLUO
6777-79	3 1/2 m/ft	528	898	480	256	64		

REMARKS 7-8 Before and after wt. 11.1

40 u 16 u vis. 40

CALLED Joe Ross @ 11:00P DATE 6 Jan. 86

GEOLOGY \_\_\_\_\_ LOGGING \_\_\_\_\_ MILEAGE \_\_\_\_\_ EXP \_\_\_\_\_

## DAILY REPORT

TEMP \_\_\_\_\_ SPUD \_\_\_\_\_ DAY \_\_\_\_\_ DATE 8 Jan. 86  
 COMPANY \_\_\_\_\_  
 WELL \_\_\_\_\_  
 LOCATION \_\_\_\_\_

DEPTH YESTERDAY 6823 TODAY 6860 FTG 37 FT/HR \_\_\_\_\_  
 OPERATION DST #1 6755 - 6860

BIT NO. \_\_\_\_\_ TYPE \_\_\_\_\_ IN \_\_\_\_\_ OUT \_\_\_\_\_ FT. \_\_\_\_\_ HRS. \_\_\_\_\_  
 BIT NO. \_\_\_\_\_ TYPE \_\_\_\_\_ IN \_\_\_\_\_ OUT \_\_\_\_\_ FT. \_\_\_\_\_ HRS. \_\_\_\_\_  
 WOB \_\_\_\_\_ RPM \_\_\_\_\_ PP \_\_\_\_\_ SPM \_\_\_\_\_ LAG \_\_\_\_\_ @

MUD \_\_\_\_\_ WT \_\_\_\_\_ VIS \_\_\_\_\_ WL \_\_\_\_\_ CK \_\_\_\_\_ PH \_\_\_\_\_ CL \_\_\_\_\_ Fe/Ca \_\_\_\_\_  
 SURVEYS \_\_\_\_\_

## GEOLOGICAL

FORM TOPS \_\_\_\_\_

FORMATION AKAH - 6846

Note: Send Mud Log from Ismay down w/Elog

LITHOLOGY \_\_\_\_\_

MUD GAS \_\_\_\_\_ TG \_\_\_\_\_ BACKGROUND \_\_\_\_\_

ZONE OF INTEREST NO. \_\_\_\_\_ @ \_\_\_\_\_ TO \_\_\_\_\_

SHOWS-BREAKS \_\_\_\_\_

DEPTH \_\_\_\_\_ LITHOLOGY HW C1 C2 C3 C4 C5 FLUO

REMARKS \_\_\_\_\_

CALLED \_\_\_\_\_ @ \_\_\_\_\_ DATE \_\_\_\_\_

GEOLOGY \_\_\_\_\_ LOGGING \_\_\_\_\_ MILEAGE \_\_\_\_\_ EXP \_\_\_\_\_

## DAILY REPORT

TEMP \_\_\_\_\_ SPUD \_\_\_\_\_ DAY \_\_\_\_\_ DATE 9 January 86

COMPANY \_\_\_\_\_

WELL \_\_\_\_\_

LOCATION \_\_\_\_\_

DEPTH YESTERDAY 6860 TODAY 6897 FTG 37 FT/HR

OPERATION Logging with Schlumberger

BIT NO. \_\_\_\_\_ TYPE \_\_\_\_\_ IN \_\_\_\_\_ OUT \_\_\_\_\_ FT. \_\_\_\_\_ HRS. \_\_\_\_\_

BIT NO. \_\_\_\_\_ TYPE \_\_\_\_\_ IN \_\_\_\_\_ OUT \_\_\_\_\_ FT. \_\_\_\_\_ HRS. \_\_\_\_\_

WOB \_\_\_\_\_ RPM \_\_\_\_\_ PP \_\_\_\_\_ SPM \_\_\_\_\_ LAG \_\_\_\_\_ @ \_\_\_\_\_

MUD \_\_\_\_\_ WT \_\_\_\_\_ VIS \_\_\_\_\_ WL \_\_\_\_\_ CK \_\_\_\_\_ PH \_\_\_\_\_ CL \_\_\_\_\_ Fe/Ca \_\_\_\_\_

SURVEYS \_\_\_\_\_

## GEOLOGICAL

FORM TOPS \_\_\_\_\_

FORMATION \_\_\_\_\_

LITHOLOGY \_\_\_\_\_

MUD GAS \_\_\_\_\_ TG \_\_\_\_\_ BACKGROUND \_\_\_\_\_

ZONE OF INTEREST NO. \_\_\_\_\_ @ \_\_\_\_\_ TO \_\_\_\_\_

SHOWS-BREAKS \_\_\_\_\_

DEPTH \_\_\_\_\_ LITHOLOGY \_\_\_\_\_ HW \_\_\_\_\_ C1 \_\_\_\_\_ C2 \_\_\_\_\_ C3 \_\_\_\_\_ C4 \_\_\_\_\_ C5 \_\_\_\_\_ FLUO \_\_\_\_\_

REMARKS \_\_\_\_\_

CALLED \_\_\_\_\_ @ \_\_\_\_\_ DATE \_\_\_\_\_

GEOLOGY \_\_\_\_\_ LOGGING \_\_\_\_\_ MILEAGE \_\_\_\_\_ EXP \_\_\_\_\_

## QUINTANA CROSSBED UNIT #1-17

5200-5230	30%	Shale red-brown, red orange soft-firm, slightly-noncalcareous, arenaceous, very silty with some grading to Siltstone; some pale green waxy, maroon waxy, very slightly calcareous.
	70%	Siltstone, brown, brown-red, very micaceous, firm, slightly calcareous some grading to very fine grained Sandstone; arkosic
	Trace	Limestone, white, cream, very light gray-brown, microcrystalline hard, dense. Trace fracture.
5230-5260	10%	Shale as above with trace Anhydrite inclusions.
	30%	Siltstone as above.
	60%	Limestone as above with common oolites, trace-common fossil fragments, some becoming dolomitic.
5260-5290	20%	Shale as above some very silty grading to Siltstone. Trace Siltstone, trace Anhydrite inclusions.
	80%	Limestone as above with some becoming light brown, some cream chalky.
		Trace-common Shale dark gray-black, firm, silty, calcareous.
5290-5320	90%	Shale red-brown, red-orange, silty, micaceous, soft-firm, slightly calcareous; trace Anhydrite inclusions; trace-common dark gray-black silty, very calcareous.
	10%	Limestone as above.
	Trace	Coal-Black, shiney, brittle.
5320-5350	90%	Shale red-brown very silty as above.
	10%	Limestone predominately cream microcrystalline, hard, dense as above.
		Trace-Common Anhydrite inclusions.



5350-5380	40%	Shale red-brown silty, firm, calcareous-slightly calcareous with common clear Anhydrite inclusions.
	60%	Limestone cream, light tan microcrystalline sparry with trace-common fossil fragments some becoming dolomitic.
5380-5410	80%	Shale as above with trace pale green waxy, trace mottled silty slightly calcareous.
	20%	Limestone as above.
	Trace	Sandstone white, very fine - medium grained, poorly sorted, subangular, well cemented - friable, calcareous.
5410-5440	60%	Shale as above some pale gray-green waxy, micaceous; trace dark gray very calcareous.
	30%	Limestone cream, light tan as above with trace pink microcrystalline, hard dense.
	10%	Sandstone white, very light tan, very fine-fine grained, medium sort, subangular with trace micaceous inclusions, trace K-spar inclusions, very well cemented, calcareous.
5440-5470	60%	Sandstone as above, predominately well cemented, calcareous with some friable - NSOFC
	20%	Shale red-brown as above
	20%	Limestone cream, light tan as above.
5470-5500	80%	Limestone dark gray-black cryptocrystalline-microcrystalline, hard, dense very silty, very dolomitic with trace fossil fragments.
	20%	Shale red-orange firm very silty grading to Siltstone.
5500-5530	100%	Limestone as above
	Trace	Shale as above.
	Trace	Limestone cream microcrystalline, hard, dense.
5530-5560	20%	Limestone cream, light tan some chalky, predominately microcrystalline, hard, dense; sandy in part, dolomitic. Trace pink microcrystalline, very hard, dense.

	50%	Sandstone white, cream very fine-fine grained, medium sort, subrounded, very well cemented, calcareous with trace biotite inclusions.
	30%	Shale as above.
5560-5590	70%	Limestone dark gray-black microcrystalline hard, dense very silty, shaley, dolomitic some with light tan to cream inclusions. Common fossil fragments.
	30%	Shale red-brown, red-orange firm some very silty grading to Siltstone; common white Anhydrite inclusions.
5590-5620	50%	Limestone as above with increasing light tan hard, dense.
	50%	Shale as above.
5620-5650	20%	Limestone as above.
	80%	Shale as above with very common Anhydrite inclusions.
5650-5680	50%	Limestone predominately dark gray-brown microcrystalline, hard, dense some very silty, dolomitic common light tan microcrystalline with trace fossil fragments; trace oolites.
	50%	Shale red-orange silty as above.
	Trace	Coal
5680-5710	90%	Limestone dark gray-brown micritic, silty, dolomitic, trace light pink microcrystalline hard, dense.
	10%	Shale as above.
	Trace	Sandstone white fine-medium grained, subrounded, well cemented, calcareous.
5710-5740	70%	Limestone as above with some becoming gray-brown very silty "dirty", dolomitic.
	30%	Shale red-orange silty as above.
5740-5770	60%	Limestone as above some very silty.
	40%	Shale as above with common Anhydrite inclusions.

5770-5800	50%	Limestone as above with increasing light tan microcrystalline hard, dense.
	50%	Shale as above.
	Trace	Sandstone white, light tan fine-medium grained, medium sort, well cemented, calcareous with glauconitic inclusions.
	Trace	Coal.
5800-5830	20%	Limestone predominately cream-light brown microcrystalline hard, dense with some cream chalky. Trace fossil fragments.
	10%	Siltstone dark red-orange firm, slightly calcareous.
	70%	Shale predominately red-orange, red-brown firm, very silty, slightly calcareous with common Anhydrite inclusions; 10% medium gray waxy firm, fissile, very slightly calcareous.
5830-5860	60%	Limestone predominately medium gray-brown silty dolomitic with common cream-light tan; trace cream chalky.
	40%	Shale as above with some very silty grading to Siltstone; common medium gray waxy.
5860-5890	60%	Limestone as above.
	40% Trace	Shale as above with common medium gray waxy. Anhydrite white crystalline.
5890-5920	40%	Limestone as above predominately medium-dark gray brown, microcrystalline hard, dense very silty, dolomitic.
	60%	Shale red-brown, red-orange, firm, very silty with some grading to Siltstone; sandy in part with common Anhydrite inclusions.
5920-5950	30%	Limestone as above.
	70%	Shale as above with trace red-green mottled.
5950-5980	70%	Limestone predominately dark gray-brown, microcrystalline, hard, dense, very silty, very dolomitic, some very shaley.
	30%	Shale very silty as above.

5980-6010	80%	Limestone dark gray-brown as above with some very sandy with biotite inclusion; some very dolomitic with gray shale inclusions; trace Pyrite inclusions.
	20%	Shale red-brown very silty as above, some medium-dark gray, waxy fissile, very slightly calcareous.
6010-6040	70%	Limestone as above.
	30%	Shale as above.
6040-6070	40%	Limestone as above.
	60%	Shale becoming predominately medium gray-dark gray, firm some fissile, slightly calcareous, some very silty; common red-brown red-orange silty as above; some medium gray with black carbonaceous inclusions.
6070-6100	100%	Limestone cream chalky with abundant fossil fragments, light tan-cream microcrystalline hard, dense dolomitic; trace-common gray waxy Shale inclusions.
6100-6130	100%	Limestone becoming predominately medium gray-brown, microcrystalline hard, dense, silty in part, dolomitic, common fossil fragments.
	Trace	Shale medium gray, waxy fissile, very slightly calcareous.
	Trace	Chert, smoky, gray, hard, sharp.
6130-6160	100%	Limestone as above with increasing very dark gray-black, very shaley, very dolomitic. Trace Chert gray, smokey as above. Some Limestone very silty, very sandy.
6160-6190	100%	Limestone predominately medium gray-brown microcrystalline, silty, dolomitic with common cream chalky.
	Common	Chert gray, smokey, hard, sharp.
6190-6220	100%	Limestone predominately medium-dark gray microcrystalline becoming very silty, dolomitic; some with Chert inclusions; trace fossil fragments.
6220-6250	100%	Limestone as above.

6250-6280	100%	Limestone as above with very common cream microcrystalline, hard, dense.
6280-6300	95%	Limestone as above some very shaley.
	05%	Shale red-orange, soft bentonitic with trace Anhydrite inclusions.
10' Samples		
6300-6310	90%	Limestone very dark gray-black, very silty, very shaley, dolomitic with some grading to silty, dolomitic Shale.
	10%	Shale dark gray-black very silty very dolomitic.
6310-6320	90%	Limestone as above.
	10%	Shale as above with some medium gray waxy, very slightly calcareous.
6320-6330	80%	Limestone as above, very shaley.
	20%	Shale as above.
6330-6340	90%	Limestone as above.
	10%	Shale dark gray, very silty as above.
6340-6350	80%	Limestone as above; trace fossil fragments.
	20%	Shale as above.
6350-6360	80%	Limestone as above.
	20%	Shale as above with trace medium brown fissile.
	Trace	Chert
6360-6370	70%	Limestone as above.
	30%	Shale as above; trace very dark gray-black firm fissile, very slightly calcareous-dolomitic.
6370-6380	90%	Limestone as above, predominately medium-dark gray, microcrystalline, silty, dolomitic some with coal inclusions, common fossil fragments; common cream-light tan microcrystalline, hard dense.

	10%	Shale predominately red-orange, silty with some medium gray, waxy; trace very dark gray-black silty, very slightly calcareous.
6380-6390	90%	Limestone as above some becoming very dolomitic.
	10%	Shale as above with increasing medium gray waxy, very slightly calcareous.
6390-6400	80%	Limestone as above some very shaley, very dolomitic.
	20%	Shale becoming predominately medium gray, silty, very slightly calcareous with some dark gray-black, very silty, dolomitic.
6400-6410	40%	Limestone predominately dark gray, very silty, shaley, very dolomitic, microcrystalline, hard, dense.
	60%	Shale predominately medium gray, silty, firm, fissile, dolomitic, with common medium brown micaceous, some dark gray silty.
6410-6420	70%	Limestone cream-light tan, microcrystalline, hard, dense some medium gray-brown, microcrystalline, silty.
	30%	Shale as above.
6420-6430	50%	Limestone as above with increasing medium gray-brown silty.
	50%	Shale as above with increasing red-brown silty, with Anhydrite inclusions.
		Trace-common Chert smokey, gray, hard, sharp.
6430-6440	20%	Limestone as above.
	80%	Shale as above with 40% red-brown silty.
6440-6450	20%	Limestone cream-light tan, microcrystalline, hard, dense with trace fossil fragments.
	80%	Shale, light-medium gray waxy, medium brown micaceous, firm, fissile, very slightly calcareous; some red-orange very silty with Anhydrite inclusions.

6450-6460	30%	Limestone as above.
	70%	Shale as above.
6460-6470	20%	Limestone as above.
	80%	Shale as above.
6470-6480	10%	Limestone as above.
	90%	Shale with increasing medium gray-brown firm, silty, micaceous, slightly calcareous, dolomitic.
6480-6490	10%	Limestone as above.
	90%	Shale as above with very common medium gray-medium gray-brown, silty micaceous.
	Trace	Anhydrite, white, soft.
6490-6500	10%	Limestone as above.
	90%	Shale as above becoming predominately medium-dark gray-brown, firm, fissile, silty, micaceous.
	Trace	Anhydrite white, soft.
6500-6510	20%	Limestone as above, some gray-brown micro-crystalline hard, dense, very silty, micaceous.
	80%	Shale as above with increasing dark gray-brown silty.
	Trace	Anhydrite white, soft, light gray silty.
6510-6520	90%	Shale dark gray-brown; dark gray, firm, silty, dolomitic.
	10%	Limestone as above.
	Trace	Anhydrite.
6520-6530	95%	Shale as above.
	05%	Limestone as above.
	Trace	Anhydrite white, soft.

6530-6540	80%	Shale as above.
	20%	Limestone as above some with fossil fragment inclusions.
		Trace-common Anhydrite, white, soft.
6540-6550	60%	Limestone as above some becoming very Anhydritic.
	40%	Shale predominately medium gray-brown, very silty, very Anhydritic, very dolomitic, hard, tite, NSOFC.
6550-6560	60%	Limestone predominately light gray-brown, microcrystalline, hard, dense, very silty, very dolomitic, with common tan, cream, microcrystalline, hard dense with trace fossil fragments; trace oolites, some very Anhydritic.
	30%	Shale dark gray, dark gray-brown firm, fissile, silty, dolomitic.
	10%	Anhydrite, gray, white, silty, dolomitic.
6560-6570	100%	Limestone predominately cream-light tan, microcrystalline, hard, dense oolitic in part, common soft, chalky.
	Trace	Shale as above.
	Trace	Anhydrite as above.
6570-6580	100%	Limestone as above; trace fossil fragments.
	Trace	Shale as above.
	Trace	Anhydrite as above.
6580-6590	100%	Limestone as above; trace fossil fragments.
	Trace	Shale as above.
	Trace	Anhydrite as above.
6590-6600	100%	Limestone as above; trace fossil fragments.
	Trace	Shale as above.
	Trace	Anhydrite as above.



6600-6610	100%	Limestone predominately cream-light tan as above with increasing light-medium gray-brown microcrystalline, hard, dense with fossil fragment inclusions.
	Trace	Shale as above.
	Trace	Anhydrite as above.
6610-6620	100%	Limestone becoming predominately light-medium gray-brown, silty in part, Anhydritic in part, some very dolomitic.
	Trace	Shale as above.
	Trace	Anhydrite white, soft, gray, silty.
	Trace	Chert, gray, hard, sharp.
6620-6630	90%	Limestone as above.
	10%	Shale medium-dark gray, some gray-brown, firm fissile, silty, dolomitic, Anhydritic in part.
6630-6640	70%	Shale as above with some very dark gray-black.
	30%	Limestone as above.
	Trace	Anhydrite as above.
6640-6650	90%	Shale as above, some red-orange silty.
	10%	Limestone as above.
6650-6660	Trip Sample	
	100%	Shale predominately very dark gray to black, firm, silty, calcareous-dolomitic.
6660-6670	100%	Shale very dark gray-black, firm, silty, calcareous.
6670-6680	100%	Shale as above.
6680-6690	100%	Shale as above; trace Limestone.
6690-6700	100%	Shale as above.
6700-6710	80%	Shale becoming light gray-brown, silty, very dolomitic, very Anhydritic, with white, clear Anhydritic inclusions; trace fossil fragments.

	20%	Anhydrite, light gray-brown, silty, dolomitic, some white crystalline, some white soft chalky.
6710-6720	70%	Shale as above.
	30%	Anhydrite as above.
6720-6730	60%	Shale as above.
	40%	Anhydrite as above.
6730-6740	50%	Shale light gray-brown, very silty, very dolomitic, very Anhydritic.
	50%	Anhydrite as above.
6740-6750	80%	Shale becoming predominately dark gray-black, silty, dolomitic.
	20%	Anhydrite as above.
6750-6760	90%	Shale dark gray-black, firm, silty, calcareous-limey with trace Anhydrite inclusions.
	10%	Anhydrite, gray, silty, white, soft.
6760-6770	80%	Shale as above.
	10%	Anhydrite as above.
	10%	Limestone cream, light tan, microcrystalline, hard, dense, silty, Anhydritic, dolomitic in part.
6770-6780	20%	Shale as above.
	10%	Limestone as above.
	70%	Dolomitic light tan-light brown, microcrystalline-very fine crystalline, hard, dense, very silty, very Anhydritic with Anhydrite in filling. Trace fossil fragments; trace healed fractures.
6780-6790	20%	Shale as above.
	10%	Anhydrite
	10%	Limestone cream, white, microcrystalline, hard, dense.

	60%	Dolomite, predominately very fine crystalline, very Anhydritic as above with some microcrystalline hard, dense.
6790-6800	40%	Shale as above.
	10%	Anhydrite as above.
	50%	Dolomite as above
6800-6810	50%	Shale dark gray-black firm, silty, limey with abundant medium gray, very Anhydritic.
	30%	Dolomite, light tan, microcrystalline, hard, dense, Anhydritic.
	20%	Anhydrite, gray silty, shaley, hard, dense.
6810-6820	70%	Shale as above.
	20%	Anhydrite as above; common Dolomite inclusions.
	10%	Dolomite as above.
6820-6830	90%	Shale as above.
	05%	Dolomite as above.
	05%	Anhydrite as above.
6830-6840	60%	Shale as above.
	30%	Anhydrite gray, silty, dolomitic.
	10%	Dolomite, cream, light tan, microcrystalline, very Anhydritic, some very fine crystalline.
6840-6850	20%	Shale as above.
	60%	Dolomite, cream, light tan, microcrystalline-very fine crystalline, very silty, very Anhydritic.
	20%	Anhydrite, gray, silty, shaley; some clear, white, hard, dense.
6850-6860	10%	Shale as above.
	80%	Dolomite light tan-light brown, predominately very fine crystalline hard, dense, common Anhydrite in filling. Trace-common .5mm

REPORT NO.  
13464F

PAGE NO. 1

TEST DATE:

08-JAN-1986

## WELL PERFORMANCE

### TESTING™ REPORT

A Production System Analysis (NODAL™)  
Based On Model Verified™ Interpretation

FLOPETROL JOHNSTON

Schlumberger

Company: QUINTANA PETROLEUM CORP.

Well: CROSS BEND UNIT 1-17

#### TEST IDENTIFICATION

Test Type ..... OH-MFE-DST  
Test No. .... 1  
Formation ..... DESERT CREEK/AK  
Test Interval (ft) ..... 6755-6860  
Reference Depth ..... RKB

#### WELL LOCATION

Field ..... WILDCAT  
County ..... SAN JUAN  
State ..... UTAH  
Sec/Twn/Rng ..... 17,36S,23E  
Elevation (ft) ..... 6277

#### HOLE CONDITIONS

Total Depth (MD/TUD) (ft) .... 6860/6860  
Hole Size (in) ..... 8.75  
Casing/Liner I.D. (in) ..... 6.336  
Perf'd Interval/Net Pay (ft).. /13  
Shot Density/Diameter (in) ...

#### MUD PROPERTIES

Mud Type ..... DISPERSED  
Mud Weight (lb/gal) ..... 11.1  
Mud Resistivity (ohm.m) ..... 1  
Filtrate Resistivity (ohm.m).. .75  
Filtrate Chlorides (ppm) ..... 2200

#### INITIAL TEST CONDITIONS

Initial Hydrostatic (psi) .... 3912  
Gas Cushion Type .....  
Surface Pressure (psi) .....  
Liquid Cushion Type .....  
Cushion Length (ft) ..... 0

#### TEST STRING CONFIGURATION

Pipe Length (ft)/I.D. (in) ... 6205/3.83  
Collar Length (ft)/I.D. (in).. 498/2.25  
Packer Depths (ft) ..... 6755  
Bottomhole Choke Size (in) ... 15/16"  
Gauge Depth (ft)/Type ..... 6761

#### NET PIPE RECOVERY

Volume	Fluid Type	Properties
.1 BBLs	MUD	1 @ 45 F 2250 PPM

#### NET SAMPLE CHAMBER RECOVERY

Volume	Fluid Type	Properties
900 CC	MUD	1 @ 62 F 2250 PPM
.1 CU/FT	GAS	.065 GRAVITY

Pressure: 6

GOR:

GLR:

#### INTERPRETATION RESULTS

Model of Behavior .....  
Fluid Type Used for Analysis ..  
Reservoir Pressure (psi) .....  
Transmissibility (md.ft/cp) ..  
Effective Permeability (md) ..  
Skin Factor/Damage Ratio .....  
Storativity Ratio .....  
Interporosity Flow Coeff. ....  
Distance to an Anomaly (ft) ..  
Radius of Investigation (ft)..  
Potentiometric Surface (ft) ..

#### ROCK/FLUID/WELLBORE PROPERTIES

Oil Density (deg. API) .....  
Basic Solids (%) .....  
Gas Gravity ..... 0.650  
Water Cut (%) .....  
Viscosity (cp) .....  
Total Compressibility (1/psi).  
Porosity (%) ..... 2  
Reservoir Temperature (F) .... 126  
Form.Vol.Factor (bbl/STB) ....

PRODUCTION RATE DURING TEST: -

COMMENTS:

WELL TEST INTERPRETATION REPORT #:13464F		PAGE: 2
CLIENT : QUINTANA PETROLEUM CORP.		13-JAN-86
REGION : WEST COAST	SEQUENCE OF EVENTS	Field: WILDCAT
DISTRICT: UERNAL		Zone : DESERT CREEK/A
BASE : DENVER		Well : CROSS BEND UNI
Engr : CLIFFORD RICHA		Location: 17,36S,23E

EVENT NO.	DATE	TIME (HR:MIN)	DESCRIPTION	ELAPSED TIME (HR:MIN)	CHOKE (IN.)	WHP
1	8-JAN	06:43	SET PACKER			
2		06:46	OPEN TOOL		1/8"	1" BLOW
3		06:47	BOTTOM OF BUCKET			
4		06:53				12 OZ
5		07:16	CLOSE TOOL			14 OZ
6		08:16	END SHUT-IN			
7		08:18	OPEN TOOL		1/8"	1"
8		08:19	BOTTOM OF BUCKET			
9		08:28				8 OZ
10		08:48				2.5 OZ
11		09:19	CLOSE TOOL			2 OZ
12		11:18	END SHUT-IN			
13		11:22	UNSEAT PACKER			

# BOTTOMHOLE PRESSURE LOG

FIELD REPORT NO. 13464F

COMPANY : QUINTANA PETROLEUM CORP.

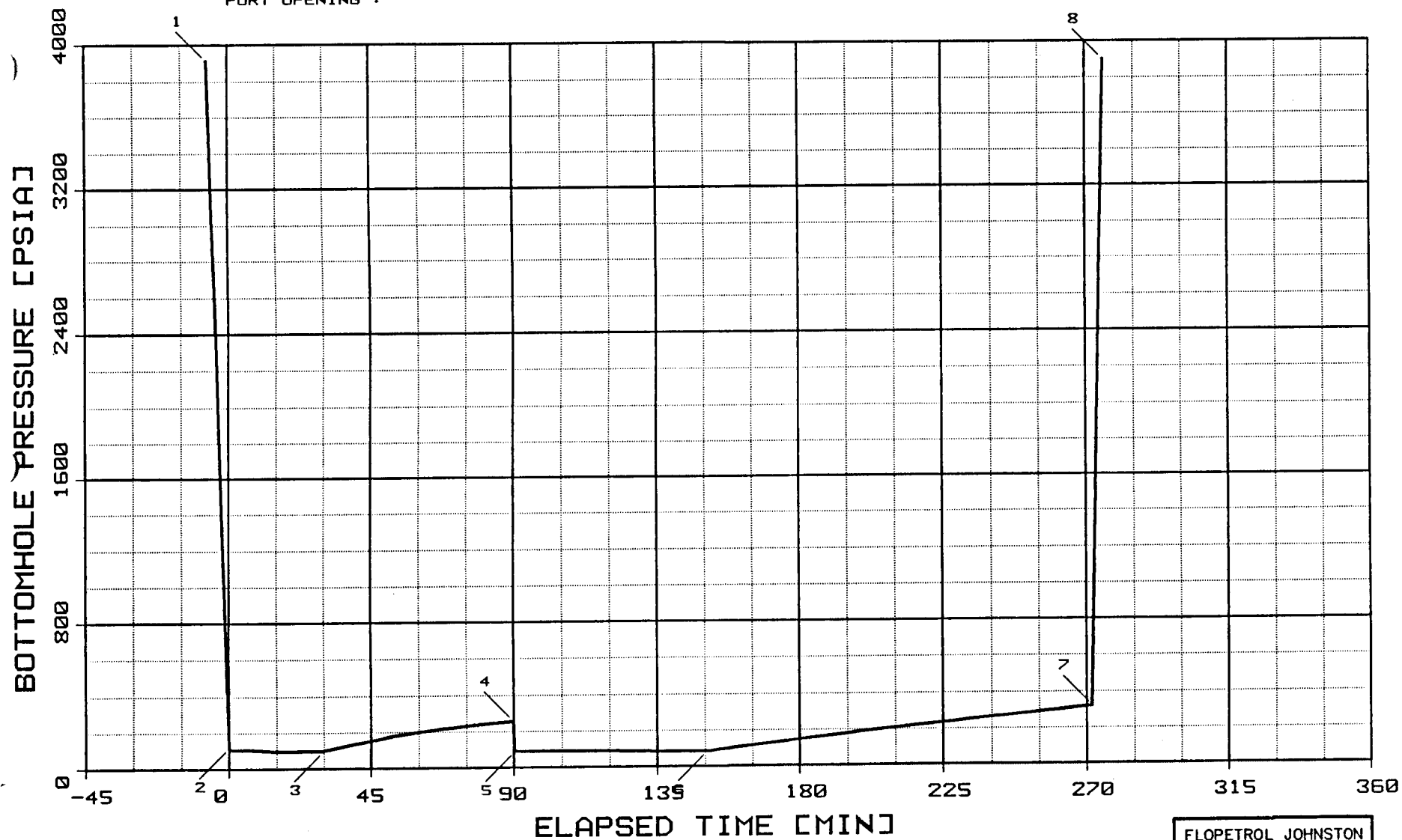
INSTRUMENT NO. 1400

WELL : CROSS BED UNIT 1-17

DEPTH : 6761 FT

CAPACITY : 6400 PSI

PORT OPENING :



FLOPETROL JOHNSTON

\*\*\*\*\*  
 \* WELL TEST DATA PRINTOUT \*  
 \*\*\*\*\*

FIELD REPORT # : 13464F

COMPANY : QUINTANA PETROLEUM CORP.  
 WELL : CROSS BED UNIT 1-17

INSTRUMENT # : 1400  
 CAPACITY [PSI] : 6400.  
 DEPTH [FT] : 6761.0  
 PORT OPENING :  
 TEMPERATURE [DEG F] : 126.0

LABEL POINT INFORMATION  
 \*\*\*\*\*

#	TIME OF DAY	DATE DD-MM	EXPLANATION	ELAPSED TIME,MIN	BOT HOLE PRESSURE PSIA
1	6:39:24	8-JA	HYDROSTATIC MUD	-6.60	3912
2	6:46: 0	8-JA	START FLOW	0.00	116
3	7:16: 0	8-JA	END FLOW & START SHUT-IN	30.00	95
4	8:15:57	8-JA	END SHUT-IN	89.95	253
5	8:16:20	8-JA	START FLOW	90.33	87
6	9:16:45	8-JA	END FLOW & START SHUT-IN	150.75	81
7	11:17:49	8-JA	END SHUT-IN	271.81	316
8	11:21:41	8-JA	HYDROSTATIC MUD	275.68	3896

SUMMARY OF FLOW PERIODS  
 \*\*\*\*\*

PERIOD	START ELAPSED TIME,MIN	END ELAPSED TIME,MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA
1	0.00	30.00	30.00	116	95
2	90.33	150.75	60.42	87	81

SUMMARY OF SHUTIN PERIODS  
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PERIOD	START ELAPSED TIME,MIN	END ELAPSED TIME,MIN	DURATION MIN	START PRESSURE PSIA	END PRESSURE PSIA	FINAL FLOW PRESSURE PSIA	PRODUCING TIME, MIN
1	30.00	89.95	59.95	95	253	95	30.00
2	150.75	271.81	121.06	81	316	81	90.42

TEST PHASE : FLOW PERIOD # 1

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA
6:46: 0	8-JA	0.00	0.00	116
6:51: 0	8-JA	5.00	5.00	102
6:56: 0	8-JA	10.00	10.00	99
7: 1: 0	8-JA	15.00	15.00	95
7: 6: 0	8-JA	20.00	20.00	95
7:11: 0	8-JA	25.00	25.00	95
7:16: 0	8-JA	30.00	30.00	95

TEST PHASE : SHUTIN PERIOD # 1

FINAL FLOW PRESSURE [PSIA] = 95

PRODUCING TIME [MIN] = 30.00

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
7:16: 0	8-JA	30.00	0.00	95	0	
7:17: 0	8-JA	31.00	1.00	100	5	1.491
7:18: 0	8-JA	32.00	2.00	104	9	1.204
7:19: 0	8-JA	33.00	3.00	108	13	1.041
7:20: 0	8-JA	34.00	4.00	112	17	0.929
7:21: 0	8-JA	35.00	5.00	115	20	0.845
7:22: 0	8-JA	36.00	6.00	118	22	0.778
7:23: 0	8-JA	37.00	7.00	122	26	0.723
7:24: 0	8-JA	38.00	8.00	125	30	0.677
7:25: 0	8-JA	39.00	9.00	129	34	0.637
7:26: 0	8-JA	40.00	10.00	133	37	0.602
7:28: 0	8-JA	42.00	12.00	139	44	0.544
7:30: 0	8-JA	44.00	14.00	146	51	0.497
7:32: 0	8-JA	46.00	16.00	153	58	0.459
7:34: 0	8-JA	48.00	18.00	160	65	0.426
7:36: 0	8-JA	50.00	20.00	166	71	0.398
7:38: 0	8-JA	52.00	22.00	173	78	0.374
7:40: 0	8-JA	54.00	24.00	179	83	0.352
7:42: 0	8-JA	56.00	26.00	185	90	0.333
7:44: 0	8-JA	58.00	28.00	190	95	0.316
7:46: 0	8-JA	60.00	30.00	195	100	0.301
7:51: 0	8-JA	65.00	35.00	207	112	0.269
7:56: 0	8-JA	70.00	40.00	217	122	0.243
8: 1: 0	8-JA	75.00	45.00	227	132	0.222
8: 6: 0	8-JA	80.00	50.00	236	141	0.204
8:11: 0	8-JA	85.00	55.00	244	149	0.189
8:15:57	8-JA	89.95	59.95	253	158	0.176



TEST PHASE : FLOW PERIOD # 2

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA
HH:MM:SS	DD-MM	*****	*****	*****
8:16:20	8-JA	90.33	0.00	87
8:21:20	8-JA	95.33	5.00	87
8:26:20	8-JA	100.33	10.00	87
8:31:20	8-JA	105.33	15.00	87
8:36:20	8-JA	110.33	20.00	86
8:41:20	8-JA	115.33	25.00	86
8:46:20	8-JA	120.33	30.00	86
8:51:20	8-JA	125.33	35.00	83
8:56:20	8-JA	130.33	40.00	83
9: 1:20	8-JA	135.33	45.00	82
9: 6:20	8-JA	140.33	50.00	82
9:11:20	8-JA	145.33	55.00	81
9:16:20	8-JA	150.33	60.00	81
9:16:45	8-JA	150.75	60.42	81

TEST PHASE : SHUTIN PERIOD # 2

FINAL FLOW PRESSURE [PSIA] = 81

PRODUCING TIME [MIN] = 90.42

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
HH:MM:SS	DD-MM	*****	*****	*****	*****	*****
9:16:45	8-JA	150.75	0.00	81	0	
9:17:45	8-JA	151.75	1.00	82	1	1.961
9:18:45	8-JA	152.75	2.00	85	4	1.665
9:19:45	8-JA	153.75	3.00	87	6	1.493
9:20:45	8-JA	154.75	4.00	89	9	1.373
9:21:45	8-JA	155.75	5.00	92	11	1.281
9:22:45	8-JA	156.75	6.00	94	13	1.206
9:23:45	8-JA	157.75	7.00	96	15	1.144
9:24:45	8-JA	158.75	8.00	99	18	1.090
9:25:45	8-JA	159.75	9.00	101	20	1.043
9:26:45	8-JA	160.75	10.00	103	23	1.002
9:28:45	8-JA	162.75	12.00	108	27	0.931
9:30:45	8-JA	164.75	14.00	112	31	0.873
9:32:45	8-JA	166.75	16.00	117	36	0.823
9:34:45	8-JA	168.75	18.00	121	40	0.780
9:36:45	8-JA	170.75	20.00	125	44	0.742
9:38:45	8-JA	172.75	22.00	129	48	0.708
9:40:45	8-JA	174.75	24.00	134	53	0.678
9:42:45	8-JA	176.75	26.00	138	57	0.651
9:44:45	8-JA	178.75	28.00	141	60	0.626
9:46:45	8-JA	180.75	30.00	146	65	0.604
9:51:45	8-JA	185.75	35.00	156	75	0.554
9:56:45	8-JA	190.75	40.00	166	85	0.513
10: 1:45	8-JA	195.75	45.00	177	96	0.478

TEST PHASE : SHUTIN PERIOD # 2

FINAL FLOW PRESSURE [PSIA] = 81

PRODUCING TIME [MIN] = 90.42

TIME OF DAY	DATE	ELAPSED TIME, MIN	DELTA TIME, MIN	BOT HOLE PRESSURE PSIA	DELTA P PSI	LOG HORNER TIME
*****	*****	*****	*****	*****	*****	*****
10: 6:45	8-JA	200.75	50.00	187	107	0.448
10:11:45	8-JA	205.75	55.00	197	116	0.422
10:16:45	8-JA	210.75	60.00	205	125	0.399
10:21:45	8-JA	215.75	65.00	215	134	0.379
10:26:45	8-JA	220.75	70.00	224	143	0.360
10:31:45	8-JA	225.75	75.00	234	153	0.344
10:36:45	8-JA	230.75	80.00	243	162	0.328
10:41:45	8-JA	235.75	85.00	252	171	0.315
10:46:45	8-JA	240.75	90.00	261	180	0.302
10:51:45	8-JA	245.75	95.00	269	188	0.290
10:56:45	8-JA	250.75	100.00	279	198	0.280
11: 1:45	8-JA	255.75	105.00	288	207	0.270
11: 6:45	8-JA	260.75	110.00	297	216	0.261
11:11:45	8-JA	265.75	115.00	307	226	0.252
11:16:45	8-JA	270.75	120.00	316	235	0.244
11:17:49	8-JA	271.81	121.06	316	235	0.242